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KANT'S THEORY OF THE A PRIORI FORMS OF SENSE.

II.

HAVING seen in a previous article[1] that Kant's arguments for the *a priori* nature of time are untenable, we now ask, Does the case stand otherwise with space? There is at any rate this difference, that Kant's arguments originated with space, and were thence transferred to time. And it is quite conceivable that they have an original validity which is yet lacking in their derivative application to time. Furthermore, they may draw support from the fact of geometry, though, in truth, they were put forward to explain its possibility. However this may be, there is difference enough to justify a separate consideration of the question.

The analysis or "metaphysical exposition"[2] of the notion of space need not long detain us, as it is identical with that of time. First, comes the negative thesis that "space is not an empirical notion which has been derived from external experience." And the reason is that "external experience is itself possible only by means of the *Vorstellung* of space." There is here no word of a world beyond our actual perceptions.[3] The meaning is that

[1] THE PHILOSOPHICAL REVIEW, January, 1899.

[2] III, 58 ff. (20 ff., S. 140 ff).

[3] On that account, the first argument cannot, as Erdmann (*Kant's Reflexionen*, II, 108 note; see no. 347) supposes, be directed against what Kant calls "Leibniz's

the space we perceive cannot be derived from the objects we perceive, because it is already implied in them. They are a part of the problem, not its solution. Yet Hume fell into the absurdity of deriving space from a series of colored points. Space, Kant means, is not abstracted from experience as something new and different from it. It is a constituent of experience, itself as ultimate or more ultimate than any other. So far all is clear. But, in the second thesis, Kant claims that space is a necessary *Vorstellung a priori*, forming the foundation of all external perception. His ground is that we can think space without objects, but not objects without space. The general arguments against this contention have already been given under the parallel account of time. Space and time without objects and events would collapse. But yourself, including your own body, you cannot think out of space. And the space in which no other objects occur itself becomes an object which fills the field of vision and has a color, light or dark, inseparably connected with it. Nor is space a necessary *Vorstellung*. For in the field of vision, where we have the most decided, if not the only, direct perception of space, there is a blank behind our back. Were space a necessary perception *a priori*, or necessary form of perceiving (as Kant afterwards expresses it), how could we explain its restriction to the perceptions of sight and touch? For sounds, smells, and tastes are not spatially ordered except in some cases indirectly by means of association. Yet, if space be a necessary form of perception, this arbitrary preference for certain perceptions seems inexplicable.

The remaining thesis of the "metaphysical exposition" is to the effect that space is a perception. The proof, as in the case of time, is that space "is essentially one, any plurality of parts or units in it (consequently also the general notion of spaces) rests solely on limitations of itself." But it has been already shown

view, that the notion of space is derived from *things*." That view Kant meets by a very different argumentation, namely, that it would rob geometry of its apodictic certainty. It is also very doubtful if Kant had Hume's or the empiricist's argument n mind, as Cohen asserts (*Theorie der Erfahrung*, p. 7). Kant is simply analyzing the notion of space, and he finds that spatial objects and relations are not prior to it.

that a unitary idea or *Vorstellung* is not necessarily a perception, reality, for example, being a notion. And as to the assertion that the one space precedes all particular spaces as underlying ground of their determination, neither Kant's explanation nor the actual facts of experience can make it for a moment credible. Kant says this "space is represented or presented (*vorgestellt*) as an infinite given quantity." But quantity is an abstract notion; and if space is given as quantity, it must be conceived and not perceived. Nor could an *infinite* quantity ever be perceived. What you perceive is not space, but the spatial. We must distinguish, as Kant fails to do, between our concrete spatial experiences and the general conception of space generalized from what is common to them. This has three dimensions and no qualitative differences. But these marks are only symbolic abridgments of the original spatial perceptions from which, by the help of thought and language, they have been abstracted. The three dimensions are mere means of geometrical investigation, indicating simply the number of elements required for determining the position of a point in space. Logically they have nothing to recommend them before any other directions whatever, though psychologically they are suggested by the up and down, right and left, front and behind, with which we mark off directions from our own bodies. But in the actual spatial perceptions, from which for ordinary geometrical purposes this conception of three axes at right angles to one another has been elaborated, there is an indefinite number of directions, each in itself as significant and important as any of the three axes. Nay, it is on that account possible to construct a geometry which shall operate with more than three dimensions or with fewer (provided in this case angles take the place of axes). In the second place, it is to be noted that these divers spatial directions have in the actual perceptions qualitative differences. For men, though perhaps not for birds, one hundred yards 'up' is a very different thing from one hundred yards 'along.' And even on the ground a mile is not the same to a poor walker as to a good one. There are qualitative differences in our original spatial experiences. By abstraction and summation, however, we construct from these definite quali-

tatively and quantitatively heterogeneous spaces the notion of an indefinite homogeneous space with three dimensions only. This abstraction, in the interests of geometry, necessarily appealed strongly to the philosopher of pure reason with his predilection for mathematics. Upon it he built the real world, making the notion of space the ground of the possibility of spatial things. This he did by endowing "airy nothing with a local habitation and a name," the name of 'perception *a priori*.'

In Kant's "metaphysical exposition" of space, then, we shall have to deny what he asserts and assert what he denies. Space *is not* a necessary perception *a priori*. Space *is* an empirical notion. That space was not a notion but a perception, Kant also argued from the existence of mathematics. If it were a notion, whether pure or empirical, he deemed mathematics incapable of explanation. This part of his argument is, however, in the second edition of the *Critique*[1] relegated to what is called the "transcendental exposition." And in that connection the great question of the possibility of geometry will in a short time be considered. For the present, it seems desirable to insist that, whatever be the explanation of geometry, space is an empirical notion.

But empiricism must not be identified with that particular account of knowledge which finds its sole data in sensations of different qualities and intensities. "For," as Mr. Ward has well said, "the longer we reflect the more clearly we see that no combination or association of sensations varying only in intensity and quality, not even if motor presentations are added, will account for the space-element in our perceptions."[2] As Locke said, the mind can frame unto itself no new simple idea. Though association, when manipulated by deft psychologists, may do wonders, it seems incapable of turning out a grist without corn to grind. And from series of sensations with no other characteristics than quality and intensity, the attempt to generate space has resulted only in the production of time, as Professor Bain and Mr. Herbert Spencer have conspicuously illustrated. Under the enchantment of this "mental

[1] Not, however, in the first edition, with which compare also *Reflexionen*, Nos. 334 and 355 (II, 104, 110).

[2] *Encyclopædia Britannica*, Art. "Psychology" (Vol. XX, p. 53).

chemistry" John Stuart Mill was hardy enough to assert, with commendable and characteristic candor, that "the idea of space is at bottom, one of time."[1] This *reductio ad absurdum* has not, however, prevented the ablest of German psychologists, Volkmann and Wundt, from giving a similar derivation of space. "The process of space-perception," says Wundt, "may be briefly described as a measuring of the manifold local sign-system of the retina [qualitatively different sensations] by the simple local sign-system of the movements. In its psychological nature this is a process of associative synthesis: it consists in the fusion of both groups of sensations into a product whose elementary components are no longer separable from one another in our immediate idea . . . Consciousness apprehends only their resulting product, the perception of space."[2] This "psychic synthesis," Wundt goes on to say, is like "chemical synthesis," by which, of course it was first suggested to English psychologists.

When now it is maintained that space is an empirical notion, it is not necessarily implied that the perceptional experience from which it is abstracted is itself a psycho-chemical product of non-spatial sensations. Indeed, if that were involved, one might rather suspect that the arguments by which space was proved to be a notion were illusory, and Kant, somehow, right after all. But between the mythological psychology of Kant and the chemical psychology of his successors, there is a middle way. They both, as Professor James has admirably shown, make space "a super-sensational mental product;"[3] the one, a product generated in the mind *by* non-spatial sensations, the other, a product *of* the mind itself for the envelopment of non-spatial sensations. But what if sensations themselves were not originally destitute of spatial investiture? Rival schools might at least rest from their labor of weaving philosophical cobwebs! Space perceptions would be 'given' like colors or sounds, and the notion of space derived from them by abstraction. The extractive art of mental alchemists would be no longer in demand. In Kant's lan-

[1] *Examination of Hamilton*, 3d ed., p. 283.

[2] *Logik*, 1st ed.; I, pp. 458–9.

[3] *Mind*, No. 48, p. 540; the last article of a remarkable series on "The Perception of Space." These articles are reprinted with important revisions in the author's *Principles of Psychology*, II, Ch. xx.

guage, we should no longer witness the ridiculous spectacle of one milking the he-goat and another holding the sieve.

Now it is very natural to suppose that we perceive space, as we perceive color, only because it is an original element of certain sensations, a part of the 'matter' of phenomena, in Kantian phraseology. This natural explanation was put out of sight by the subjectivistic wave of post-Lockian philosophy. The only school that might have brought it forward was that of Reid; but here the absolute opposition of primary and secondary qualities prevented the question itself from coming into notice. And Kant's dominance in later philosophy would have entailed upon such an hypothesis the damning epithet 'uncritical.' That space is sense-given, however, is to some extent implied in the metaphysics of Lotze, though Lotze lays greater stress on the reconstructive and interpretative activity of the soul, which surely cannot be wanting in the case of sensations in general. Mr. Ward, however, maintains explicitly this view of the original extensiveness of certain sense-impressions as the germ of space. "The first condition of spatial experience," he says, "seems to lie in . . . the extensity of sensation (what Dr. Bain has called massiveness). This much we may allow is original. . . . . Before and apart from movement altogether, we experience that massiveness or extensity of impressions in which movements enable us to find positions and also to measure."[1] And Professor James, after a masterly analysis of the physiological and psychological facts, reaches a theory of the perception and conception of space, which, however it may otherwise differ from Mr. Ward's, agrees in the initial and fundamental position that the "spatial quality" is "a *first* psychical thing," "that it enters with the first optical sensations." From this original sense-element Professor James develops the conception of space as follows: "All our sensations are positively and inexplicably extensive wholes. The sensations contributing to sense-*perception* seem exclusively to be the surface of the skin, retina, and joints ('muscular' feelings play no appreciable part). The total bigness of a cutaneous or retinal feeling soon becomes subdivided by discriminative attention. *Movements* assist this

[1] *Encyc. Brit.*, Art. "Psychology" (Vol. XX, pp. 46, 53).

discrimination. The *education* of our space-perception consists largely of two processes—reducing the various sense-feelings to a common *measure*, and *adding them together* into the single all-including space of the real world. Both the measuring and the adding are performed by the aid of *things*. The imagined aggregate of positions occupied by all the actual or possible, moving or stationary, things which we know, is our notion of 'real' space—a very incomplete and vague notion in most minds."[1]

Kant's arguments to prove that space is an *a priori* perception have been found untenable. Our analysis showed that space must be a conception empirically derived. And the experience of extensity from which it can be derived has now been distinguished from that experience of quality and intensity in which for the most part it has hitherto been sought, though in vain. With the collapse of the theory of space as an *a priori* perception or form of perceiving (and the two go together according to Kant) fall also, as in the case of time, the subjectivistic and phenomenalistic deductions by which Kant would separate knowledge from reality. It was because he supposed space and time subjective in a different sense from colors, that is, without dependence for their existence on real things, that they could have become for him forms constituting the essence of objects, which objects, therefore, could never be more than appearances in our modes of perception. With the abandonment of these mythological forms, space will occupy the same relation to outside reality as color does. If you say that the sensation of red has for its real counterpart some property of vermilion, which, of course, cannot be like the sensation, precisely the same can be said, as on Kant's theory it could not, of every perception of space. And Wundt makes the very probable supposition that the objective counterpart of the notion of space is "the regular order of a manifold which consists of individual real objects independently given."[2] At any rate, it is of some such objective reality that space is the subjective reproduction. It is not an *a priori* retort which distorts its *a posteriori* content, and makes

[1] See the whole summary, with historical remarks, in *Mind*, No. 48, pp. 536–548.
[2] *Logik*, 1st ed., I, p. 463.

illusion of reality. It is the mode in which a certain aspect of reality reveals itself to consciousness, and to that extent therefore is real knowledge. But the agnostic results of Kant's doctrine of *a priori* forms have already been considered in connection with time.

With mathematics, however, and more particularly with geometry, we have still to settle. It is the ultimate aim of the *Æsthetic* to explain the possibility of this science. But the fact of the existence of geometry as a body of irrefragable truth was so constantly present to Kant's mind that to him at least it stood as a proof of that *a priori* perceptive character of space which he ostensibly deduced from other grounds, and then used to explain the possibility of geometry. In the first edition of the *Critique*, it has its place among those arguments which, in the second edition, were massed together as the "metaphysical exposition." And in the *Reflections* it figures both in the positive and negative theses regarding space. "Space," it is said, "is not an empirical notion (1) because it makes experience possible, (2) because it is no object of the senses, (3) because geometrical principles have not the contingency and particularity of judgments based on experience."[1] And again, affirmatively, "space is a perception, and no notion *a priori*, ... for whence otherwise should synthetic judgments *a priori* be derived?"[2] Even in the second edition of the *Critique*, the argument of the new section, entitled "transcendental exposition of the idea of space,"[3] is to the effect that space must be an *a priori* perception or form of the faculty of perceiving, because only on that supposition is the possibility of the science of geometry to be explained.

Kant professes to be explaining the possibility of mathematics. He does so by the doctrine of space as an *a priori* perception. But his proofs of this doctrine we have found invalid. Nothing now remains but the assertion that space must be an *a priori* perception in order to account for geometry. But we are not bound to account for geometry at all, as its existence is

[1] II, 104 (no. 334).
[2] II, 110 (no. 355).
[3] III, 60–61 (S. 143–4).

not impugned. And if we should undertake the problem, may there not be other possible solutions? At all events a thesis is not to be accepted merely because it leads to right consequences, for, as is well known, a true conclusion may be deduced logically from false premises. If space as an *a priori* perception accounts for geometry, Kant will have to show that *nothing else* can account for it before asking us to believe that space *is* an *a priori* perception. Of course, if space as an *a priori* perception does not account for geometry, the dogma that it is an *a priori* perception remains without a shred of evidence. Two questions, therefore, must be considered. First, Is the possibility of the science of geometry explained by the doctrine that space is an *a priori* perception? Secondly, Can it be otherwise explained?

Let us begin with the first of these questions. Whoever compares Kant's various utterances on the subject of geometry (for that is the only branch of mathematics he considered with any thoroughness) will find that an explanation of the possibility of the science resolved itself for him into an explanation of what he considered its three essential characteristics, namely, the synthetic character of geometrical propositions, their universality and necessity, and their objective validity. Are these characteristic features of the science accounted for by the hypothesis that space is an *a priori* form of perception?

It has generally been conceded that Kant's theory explains at least the peculiar certitude of geometrical truth, though empiricists have taken care to add it is equally explicable on other grounds. But it may very well be questioned if the concession is not the result of the survival of rationalistic modes of thought even when they are least suspected. In the eighteenth century the validity of a judgment seemed greatly enhanced by the derivation of its materials from the innate resources of the mind. This mental origin conferred a met-empirical authority. Hence the great struggle between rationalists and sensationalists turned upon the legitimacy or illegitimacy of the genealogical claim of certain propositions. But we have come to see that no kind of origin as such can make a proposition true. Why then should the *a priori* origin of space make the truths of geom-

etry universal and necessary? No doubt if space be a form with which I invest every external object I perceive, it is a tautology to say that *all* my external objects *must* be spatial. But more than that Kant's doctrine does not warrant, though this assuredly is not the universality and necessity to be explained. It is asserted that every geometrical proposition affirming a determination of space is universal and necessary, *because* space is an *a priori* form of perception. But I cannot see the force of that 'because.' If space is an *a priori* form of external perception in the Kantian sense, I can see that all external objects must be in space, but I am absolutely in the dark about the particular relations of parts of space to one another. When I discover these relations, if I call them universal and necessary, it must be on other grounds than the absolutely irrelevant and, as it were, opaque consideration that the space in which I have found them is an *a priori* form of perception. The certitude, relative or absolute, of a proposition depends upon the force, relative or absolute, of its proof or evidence. Whether the subject of proof be space or color, whether it be *a priori* or *a posteriori*, does not in the least affect the conclusion.

The claim that Kant's doctrine explains the synthesis in geometrical propositions deserves more serious consideration. For since Kant's time at least it can no longer be held they are analytic. And if synthetic, it must be admitted that the synthesis is based on perception, as Kant also maintained. But this is not to embrace the doctrine of *a priori* perception; for there is also empirical perception, nay before Kant's time no other was heard of, and no other, I believe, is even to-day intelligible. The case, however, must not be prejudged. Does the hypothesis of *a priori* perception explain the synthesis implied in every geometrical proposition? It seems to do so in the hands of Kant. Synthesis is dependent upon perception; empirical synthesis (*e. g.*, 'the stove is hot') upon *a posteriori* perception (*i. e.*, feeling the stove); why not also pure synthesis (as in geometrical propositions) upon *a priori* perception (*i. e.*, space)? But this very statement with its exemplifications shows the difficulty. When I say empirical synthesis depends upon percep-

tion, I mean upon seeing, touching, tasting, or some other perceptive mode. What is meant by *a priori* perception? A perception independent of sense-experience, of seeing, touching, tasting, etc. But what can I thus perceive? One would naturally suppose, space. But such is not Kant's teaching. Space, which he calls an *a priori* perception, is, as we have seen, not itself perceived, and is finally declared a mere formal or subjective condition of perceiving. It cannot then be the ground of synthesis. *A priori* perception is not touching, seeing, or any other mode of perceiving. It is an empty phrase only, the ghost of that perception we require for geometrical synthesis, but eviscerated of everything that could give it.

The remaining characteristic of geometry, its objective validity, seems to have profoundly exercised the mind of Kant. And naturally. For as he had given up the rationalistic belief that all knowledge originated in the mind alone, and yet made a reservation in favor of mathematics, it was surely an interesting consideration why this part of mind-originated knowledge had validity for the objective world. But for any one but an apostate from rationalism there is no problem to be solved. For the empiricist finds no difference in kind between mathematical and other knowledge, all of which he explains by perception. For him, as for the thorough rationalist, mathematics has the same claim to objective validity as the truths of chemistry or botany. But Kant maintained that, apart from his theory, "the space of the geometer would be considered a mere fiction, and no objective validity ascribed to it, because we cannot see how things must of necessity agree with an image of them, which we make spontaneously and previous to our perception of them."[1] This assumes that the geometer operates with mind-made figures in a mind-made space. Kant, therefore, erects for himself the problem of objective validity. That assumption being made, it must also be added he has solved the difficulty. His solution, however, is rather an escape from the problem than an answer to it. It is this: The propositions of the geometer agree with objects, because objects so far as those propositions concern them (that is,

[1] *Prolegomena*, § 13, Remark 1 [IV, 36 (51, 52)].

spatially) are made by us out of the very stuff whose inner constitution and relations are formulated by geometry. Kant's self-made problem of the objective validity of geometry is resolved by making the objective world an appearance of ours—an *Erscheinung* which nothing can save from becoming mere *Schein*.

It will now be acknowledged that in regard to mathematics, Kant's theory is not of such high merit as has been generally supposed. It remains only to inquire whether geometry, which the *a priori* doctrine of space fails to account for, can be explained on any other grounds. It will be found that all its characteristics are due to its derivation from experience and the peculiarity of its subject matter.

As to the universality and necessity of geometrical propositions, it may well be doubted whether these marks are more than phrases which, like rudimentary organs, have survived from rationalism and are now without a meaning. If it be otherwise, and if that peculiar certitude which undoubtedly belongs to mathematical truths can be justly described as universality and necessity, we can find its grounds, objectively, in the simplicity of space as a mere homogeneous manifold, and, subjectively, in repetitions of the invariable experience of their validity. In the case of the axioms, the simplicity is obvious. But even in complex demonstrations, we are always dealing with the one simple conception of space, and everything is brought to the test of perception by means of construction. And construction, as Hobbes pointed out long before Kant, is what brings geometrical figures under our control, and enables us to know them through and through, as we cannot know physical objects which are given to us from without, and not made in accordance with notions of ours. We do not create space, as Kant supposed, but, as Kant also saw, we do construct figures in space. And in the constructibility of spatial figures, the generality of the notion of space from which everything but tri-dimensional extension has been abstracted, and in the psychological effects of invariable experience, we have the conditions for the production of the apodictic certainty of geometrical truth. It is not intended by the mention of customary experiences to detract from the real certainty of math-

ematical propositions. But custom, it cannot be doubted, adds to their convincing force. The objective grounds of their apodicity are, it must be remembered, not independent of experience. Still, as the lines we draw are conditioned by our geometrical conceptions of space, and this is not only simple and transparent in itself, but attested by an invariable objective experience, there seems little ground for the doubt that future astronomical observations may show that the sum of the three angles of a triangle are not equal to two right angles, though that suggestion was made by an eminent mathematician many years ago and has frequently been re-echoed since.[1] Kant himself has admirably described the grounds of the certainty, and especially the universality, of geometry. "The particular figure," he says, "drawn on the paper is empirical, but serves nevertheless to express the concept of the triangle without any detriment to its generality, because, in that empirical perception, we consider always the act of the construction of the concept only, to which many determinations, as for instance, the magnitude of the sides and the angles, are quite indifferent, these differences which do not change the concept of a triangle being entirely ignored."[2]

That the synthesis in geometrical proportions rests upon perception was properly emphasized by Kant, and has since been confirmed by Riemann's transcendent geometry of a space or manifold of *n* dimensions. But nothing except Kant's belief in the met-empirical authority, and therefore, *a priori* origin, of mathematics requires us to hold that this perception is not our everyday seeing, or (as in the case of the blind) touching. Geometry rests ultimately upon superposition of figures, and their coincidence is simply a matter of observation, or of customary belief founded upon observation. And, in spite of his too frequent obscuration of the whole subject by the appeals to *a priori* perception, Kant has more than one description of the geometrical process which seeks synthesis in no higher source than ordinary perception. He gives, for example, to the geometer, the problem

[1] Lobatschewsky, Crelle's *Journal für reine und angewandte Mathematik*, Bd. xvii, 1837, p. 302. Quoted in Wundt's *Logik*, I, 445.

[2] III, 478 (611).

of finding the relation of the sum of the angles of a triangle to a right angle. And he makes him proceed by constructions, as in Euclid, till he "*sees* that an exterior adjacent angle has been formed, which is equal to an interior, etc." Then Kant sums up the process of the geometer most truly, as follows: "In this way he arrives, through a chain of conclusions, *though always guided by perception*, at a thoroughly convincing and general solution of the question."[1] This empirical source of geometrical synthesis is in the *Reflexionen* still more clearly exhibited by the aid of a comparison, with which we may close. "The synthetical propositions of space are not contained in the general notion of space any more than the experimental propositions the chemist makes about gold are contained in its general notion, *but they are drawn from, or found in, the perception of space.*"[2] The geometer is no more an *a priori* percipient than the chemist: both depend upon actual everyday perception.

The empirical theory of mathematics is not perplexed with the problem of objective validity, as has been already observed.

The total result is that the *a priori* doctrine of space fails to account for geometry, which, on the other hand, can be satisfactorily explained as the most general of the empirical sciences. Kant has not solved his problem, How is pure mathematics possible? Space has not been proved, either on mathematical or on other grounds, an *a priori* perception or form of perception. A similar conclusion has already been reached with regard to time.

Space and time are the only elements of the *Transcendental Æsthetic*. Kant tells us in the *Reflexionen*,[3] he was originally disposed to add motion, but finally excluded it because it contained more than the pure forms of sense. Our criticism ends with the same conclusion regarding space and time themselves. There are no pure forms of sense. The very idea belongs to a mythological psychology now all but obsolete. If in the perception of objects we are not, as is generally supposed, informing ourselves of reality, Kant has not demonstrated that we are in-

[1] III, 479–480 (614).
[2] II, 110 (No. 354).
[3] II, 101 (No. 326).

forming reality with ourselves and transforming it into appearance. The phenomenalism, however, which Kant bases on the doctrine of the *Æsthetic* he completes in the *Analytic*, and thither we must at some future time follow it, even though, as has been shown, its foundations are of sand.

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THE SIGNIFICANCE OF BUTLER'S VIEW OF HUMAN NATURE.

IN Butler's ethical speculation there are to be found the various lines of thought with which ethical controversy has always been engaged, and from the emphasis of anyone of which an ethical theory receives its definitive character. We see running through his treatment strains of intuitionism, rationalism, and hedonism, both egoistic and universalistic; and in the expositions of his system, sometimes one and sometimes another of these elements is emphasized as especially descriptive of his doctrine. In a general way, Butler has stood in the history of the development of ethical thought as the founder of modern intuitionism. When his system has been regarded in this light, the criticism has usually followed that he has given us only a psychology, and not an explanation of the moral life, that morality for him is without content. It is further asserted, however, that when he does assign a content to conscience it is the content of self-love, and virtue in the last analysis becomes synonymous with individual happiness. On the other hand, his position has been more or less closely identified with the speculations of Shaftesbury and Hutcheson, and it is said that "in Butler the sentimental school really reaches its climax."[1] If such is the case, then the content of virtue is, not prudence, but benevolence. Further, Butler's rationalism is supposed to lie in the office and position which he has attributed to conscience as reflection, and in the supremacy of such a moral faculty in the hierarchy of human nature—a view which is compared with Plato's enthronement of reason as lawful sovereign in the soul of man, while desire should obey, and the passions be held in leash, "as the dog is by the shepherd." Again it is alleged that Butler holds to a duality of regulative principles—conscience, the content of which is the content of benevolence, and self-love, which has prudence for its content. Finally, and perhaps most commonly, however,

[1] Selby-Bigge, *British Moralists*, vol. I, p. xliv.

it is maintained that he predominantly conceives of benevolence and self-love as coördinate principles of our nature, both alike being under the supreme authority of conscience. But those who give this account, which seems to me undeniably the true one, are too apt to concede that his treatment is wavering and inconsistent, and that his system cannot stand the test of close analysis.

It must always be remembered, however, that Butler never wrote a systematic treatise on ethics, and that we must gain our view of his position chiefly from a few sermons which were preached at various times during a course of eight years, and the collection of which for publication was, as he himself tells us, in great measure accidental. It is, therefore, to be expected that many statements will be found, which, if taken literally and out of their connection, will result in inconsistency and confusion. Consequently, to gain a correct estimate of his system it is necessary to endeavor to ascertain as far as possible from an examination of the context, what Butler intended to say, to read out of his sermons what is implicit, rather than to stand upon the letter of his statement.

Now, the central and distinguishing feature of Butler's theory is his view of human nature as an organic whole. It is this broad and comprehensive view, upon which all his speculation is based, that preserves him from the one-sidedness of his predecessors and contemporaries, and of many later writers as well. And, therefore, it is but the fairness necessary for sympathetic exposition to read everything in the light of this central doctrine. Although it is true that his view of human nature as a constitutional and harmonious whole is always recognized, its significance for the system does not seem to be sufficiently appreciated. Otherwise such stress would not be laid upon "the irreconcilable contradictions" of his thought. It is only by losing sight of his basal stand-point, that, for example, one could be led to take a random passage or two with over great seriousness, and arrive at the conclusion that Butler resolves virtue either into prudence or into benevolence. Every analysis of the different principles of human nature which our author makes should always be read in

reference to his fundamental doctrine. When in his emphasis of self-love, benevolence, or conscience, he is led into seeming inconsistency, if were member his underlying conception the contradiction vanishes, or at most remains only as a confusion in language. That broad foundation, together with his teleological method, dominates his whole thought, and is accountable for all those striking results of his speculation which justly cause Butler's contribution to ethical theory to be regarded as the most important that was made in the two thousand years which elapsed between Aristotle and Kant. Since this central position of human nature as an organic unity furnishes the key to Butler's whole system, it is necessary to introduce a study of his ethical thought with an analysis of it, the significance of which can probably be better appreciated if we contrast Butler's view with some type of extreme rationalism, such as that of Kant.

The problem which confronted Butler was handed down to him by his predecessors of the seventeenth century. Hobbes, as is well known, by his theory of the "state of nature" and "social contract," had made moral distinctions purely artificial, conventional, and relative. In answer to this, numerous attempts were made to prove the rational, natural, and absolute character of moral laws. The intellectual moralists had rehabilitated the Stoical assertion that morality was part of the "nature of things," and maintained further that moral distinctions were "eternal," "immutable," mathematically necessary, and completely rational; while the sentimentalists, Shaftesbury and Hutcheson, had added a "moral sense," a faculty of immediate perception of moral distinctions and laws. Now, Butler, following, on the whole, the lead of Hobbes's opponents, seeks to demonstrate that morality is grounded in the peculiar nature and constitution of man. He sees that there are two methods which may be employed, one which aims at showing that morality is part of the "nature of things," the other that it is grounded in the peculiar constitution of human nature.[1] Cudworth and Clarke had

[1] Pref. to *Sermons*, Sect. 7, p. 5. The references are to Gladstone's first ed. (1896) of Butler's works. The references to sections, although not to pages, are applicable also to Gladstone's second ed. (1898).

adopted the former, but Butler properly proceeds according to the latter method. Hence for Butler the whole of virtue is contained in the maxim, "Follow nature," and the problem of ethics is to determine the true meaning of human nature. By definition, virtue becomes identified with the preservation, or, in more modern terminology, the realization of the whole nature of man. Keeping close to his ethical problem, Butler does not go behind human nature to tell us why we should follow it. All that can be said is that it is reasonable to do so. From the concept of human nature, the content of morality as well as the fact of obligation is to be deduced. If we assume an opposite content, we should land in a contradiction of the true nature of man.

His first task, then, is to establish an adequate idea of human nature as a whole. Employing, like Plato, the analogy of the state, he begins by showing that "the idea of a system, economy, or constitution of any particular nature" is "an one or a whole made up of several parts," in such a manner that "the several parts, even considered as a whole, do not complete the idea, unless in the notion of a whole you include the relations and respects which these parts have to each other."[1] An adequate idea of a system involves also its "conduciveness" to some purpose or end. Now human nature contains several elements which, in their unity, form an hierarchy, with "conscience as reflection" occupying the supreme position, under which are placed the two coördinate regulative principles of reason, self-love and benevolence. And on the lowest level Butler groups together the manifold "appetites, passions, and affections," which terminate in particular objects as their end. Hence the fundamental relation which the constituent parts of the human constitution bear to each other is that of authority or right to rule, just as in the idea of a civil constitution. Since it is only when we take into account the supremacy and authority of conscience that we get the idea of the constitution of human nature, the proposition that our nature is adapted to virtue, in the same sense that a watch is to measuring time, is a self-evident deduction from our structure.[2]

[1] Pref. to *Sermons*, Sect. 10, p. 8.
[2] *Ibid.*, Sect. 13, pp. 9–10.

We, however, differ from an inanimate and passive machine, in that we are agents, our constitution is put in our power and charge, and "therefore we are accountable for any disorder or violation of it." Since we are responsible agents, the natural law is the moral law.

This identification of morality with nature, however, does not mean that we are free to follow each and any part of our nature as its turn happens to come. If to be natural is the same as to be moral, are we not, it might be asked, free to indulge without distinction our appetites and passions, for they too are natural, and in gratifying them we are following where natural impulse leads? But this is by no means what Butler, or, as he points out, what the Stoics meant when they made virtue consist in following nature. Such a view would rest on a misconception of human nature as a whole. If the whole were merely an aggregate of parts with no inherent qualitative differences, then the only sense in which the dictate could be taken would be in the fatal sense of following nature wherever the strongest present inclination for the moment impelled us. But if we conceive human nature, not as a mere aggregate, but as a truly organic whole, then the pursuit of random inclination would be contrary to the constitution of the whole, since such a course would involve the substitution of the law of a part for the law of the whole. Nevertheless, since the whole is made up of mutually related parts, the function of each part must have its legitimate place in the law of the whole, and conscientious conduct must allow a due and just proportion to the claims of each element. The gratification of desire is in itself natural, and therefore right, so long as it is in accordance with right reason; it becomes vicious only when it is granted undue, *i. e.*, unreasonable, prominence. Butler, like Aristotle, sees no reason why there should be any ethical necessity to annihilate desire and its function; he insists only on its proper subordination to reason. Here his vantage ground over Kant is of momentous consequence. He has no interest to lead him to draw a line of strict demarkation between action from duty and action from inclination, and consequently he is not forced to introduce a unique feeling of "respect" or "reverence" with all its attendant

difficulties. Thus morality is not made to consist in an inevitable death-struggle between action from duty and action from desire, but rather in the harmonious coöperation of reason and sense. Notwithstanding this difference, the essential truth of the Kantian position is still maintained. For both systems, reason alone can give actions moral worth. The expression 'due proportion' and similar ones which are to be found so frequently in Butler might, like Aristotle's doctrine of the "mean," apparently indicate that reasonableness and morality consist merely in a quantitative difference; but this is not the true position of either. Action in accordance with the mean is reasonable, not simply because it is neither too much nor too little, but because it can be translated into action in accordance with right reason, with a qualitative standard of right implied. In this way, it is seen, reason is not a mere regulator to determine *how much* a particular desire can be permitted gratification without a breach of morality, as is sometimes alleged, but that in a deeper sense it constitutes the moral value of all action, and makes moral worth what it is. It is not necessary for ethics to determine why there is any relation, or exactly what the relation is, between virtue and the mean, or vice and the extreme, any more than it is necessary for æsthetics to solve the same problem in regard to beauty and ugliness. The determination of the relation of the category of quality to that of quantity is the business of epistemology, and ethics, as well as æsthetics, must take the fact as it is, and need not formulate an epistemological solution.

In making the deduction from the constitution of the self that our nature is adapted to virtue, Butler is employing the same argument from design that Kant uses. From the fact of the existence of reason and will in man's nature, Kant argues to the proper end or purpose of such a being. He finds that reason is designed to be a moral faculty, and that its true purpose, and therefore the highest end of man, is to produce the Good Will.[1] For Kant, then, morality consists in acting in accordance with the highest principle of man's nature. Now Butler's argument is

[1] *Fundamental Principles of the Met. of Morals* (Abbot's trans.), pp. 10–12. Cf. also *Crit. of Pract. Reason* (Abbot's trans.), ch. 2, p. 135.

essentially the same. Assuming that from the inward frame of man and its natural adaptations we can ascertain what course of life and behavior that real nature points out and leads to, Butler argues from the fact of the existence and nature of conscience to the proper end of our being. He finds that, as the moral faculty, it is designed for and hence adapted to virtue. Since it is not only the supreme part, but also the synthetic principle of the human organism, its goal becomes identical with the complete end of man, or, in other words, obedience to conscience secures the realization of man's whole nature. Therefore, for Butler, morality consists in acting in accordance with the whole of human nature, and his maxim becomes "Follow human nature as a whole."[1] We saw above that for Kant, morality meant action in accordance with the highest principle of man's nature. Butler, too, might have expressed his conclusion in the same way, for he sees that, on his view, the two statements really mean the same thing. In speaking of the ancients, he says that "though it should be thought that they meant no more than that vice was contrary to the higher and better part of our nature; even this implies such a constitution as I have endeavoured to explain. For the very terms higher and better imply a relation or respect of parts to each other; and these relative parts, being in one and the same nature, form a constitution, and are the very idea of it."[2] Although to make virtue consist in following the highest principles in man is, therefore, no "loose and inderminate" way of speaking, "but clear and distinct, strictly just and true," as the various principles in man are "totally different, not in degree, but in kind," nevertheless Butler rightly prefers his own expression, since, however different, these principles all belong to one constitution and their relation is conceived as organic. Kant might have said the same thing, if it were not for the fact that, apparently at any rate, he does not conceive the relation between the rational and the sensible self to be organic; consequently he cannot admit the end of the sentient self into his

[1] Pref. to *Sermons*, Sect. 15, p. 12; Sect. 18, pp. 13–14. Cf. also *Sermons*, II., Sect. 1, p. 51.

[2] Pref. to *Sermons*, Sect. 14, p. 11.

supreme good, and is led into an absolute opposition between action from desire and action from a rational principle. When, however, he passes from the abstract to the concrete, he, with evident inconsistency, admits happiness as a part of the *summum bonum* or "complete good," which is thus made the end of man as a whole, both rational and sensible. But the fact that, after the complete differentiation of the sphere of prudence from that of morals, these must after all be brought into organic connection in the "complete good," shows the superiority of Butler's point of departure, and the many difficulties he thereby escapes.

Thus far we have seen what Butler means when he says that human nature is designed for virtue, and how this proposition is a self-evident deduction from the very idea of our constitution. So too the obligation to the pursuit of virtue must be an equally obvious deduction. The very notion of conscience involves its supremacy and authority. Mankind upon reflection approves of what is good, and disapproves of the contrary, and authority and obligation form "a constituent part of this reflex approbation."[1] Hence the very constitution of our nature requires that we, as moral agents, should make it the whole business of our lives to conform ourselves to the authoritative behests of that supreme faculty which makes for virtue.[2] In this way, then, it is seen that not only the fact of adaptation, but also that of obligation is an implicate of the conception of human nature as a totality. To deny either would be a contradiction of the nature of the self. Kant finds obligation implied in the idea of the moral law, the abstract concept of which afforded him a point of departure for his ethical system. Butler argues from the concrete fact of the consciousness of obligation to its natural and moral validity. We are not here concerned to decide whether or not Butler has two theories of obligation, one explaining the obligation to the pursuit of virtue as an end, on the ground that it is an admitted fact that it is an end, the other explaining it as involved in the very idea of 'reflex approbation,' or conscience as a discriminating, authoritative, and supreme faculty.[3] Here it may be briefly sug-

[1] *Ibid.*, Sect. 22, p. 16.
[2] *Ibid.*, Sect. 19, p. 14.
[3] See Laurie, *Notes on Moral Theories*, p. 70.

gested, however, that these two theories of obligation, the one deriving it from the concept of an end, the other from the consciousness of obligation which is implied in the act of approbation or disapprobation, can be reconciled if we remember Butler's argument from design. In one sense, the only obligation is that which the end imposes. Now the end for Butler is virtue; but this end was derived from an examination of human nature, in which was discovered a principle evidently designed for another purpose than those principles of action which man has in common with brutes. Hence it seems legitimate for Butler to argue either from an end derived in such a manner to the fact of obligation, or from that principle in human nature, the existence of which gave us virtue as an end, to the obligation to pursue that end. It is really one and the same argument. However, this problem is involved in the doctrine of conscience, and a full treatment of it would necessitate a detailed discussion of Butler's account of the moral faculty.

Proceeding with the analysis of man's nature, Butler finds two other general principles, in addition to the many particular affections which terminate in particular objects as their end. These two are self-love and benevolence, the former of which has regard for private good, the latter for the good of the community. Here again Butler uses the argument from design. That these two principles do exist is an undeniable fact of analysis. What then is their significance, their purpose, in a nature like ours? Evidently that as we have in us principles which make both for our own and others' good, then, if we are to follow nature, both of these must have some place in the true end of man, and reason must assign to each its due and just proportion. "There are as real and the same kind of indications in human nature, that we were made for society and to do good to our fellow creatures; as that we were intended to take care of our own life and health and private good,"[1] for "there is a natural principle of benevolence in man; which is in some degree to society, what self-love is to the individual,"[2] and the only meaning these can have is that we have a social, as well as an individual, end. Although these

[1] *Sermons*, I, Sect. 3, p. 35. [2] *Ibid.*, Sect. 4, p. 35.

two principles are different, still they coincide perfectly, since they are mutually dependent on each other, in a nature like ours, for the attainment of their respective ends. And this very coincidence furnishes further proof that we were made for both ends.[1]

Employing once more the teleological argument, Butler's next step is to show that the several particular passions and affections, distinct both from benevolence and self-love, point to the same conclusion, since they "in general contribute and lead us to public good as really as to private."[2] As an example of the latter, Butler cites hunger, "because the end for which it was given us is the preservation of the individual." An instance of the former sort is desire of esteem, "because the end for which it was given us is to regulate our behaviour towards society." The object and end of the former is merely food; the object and end of the latter is merely esteem: but the latter can no more be gratified without contributing to the good of society, than the former can be gratified without contributing to the preservation of the individual."[3] Even if desire of esteem and similar passions, like indignation against successful vice, which Butler views as public affections or passions, "be considered likewise as private affections tending to private good, this does not hinder them from being public affections too, or destroy the good influence of them upon society and their tendency to public good."[4] Thus there is in the case of these particular affections, which are distinct from self-love and benevolence, as great a coincidence in result as was found in the general principles. Even if men act from regard, *e. g.*, of reputation, without any consideration of the good of others, they nevertheless contribute to the social good, as much as they contribute to the preservation of the individual, if they act merely from the appetite of hunger, without any rational conviction of the desirableness of life. So by acting almost blindly according to impulse, we may be led to carry out our Maker's design, although the only sure and moral way of so doing, the only way consonant with our nature as a whole, is to bring all our conduct before the supreme principle of our

[1] *Ibid.*, Sect. 5, p. 38.
[2] *Ibid.*, Sect. 6, p. 38.
[3] *Ibid.*, Sect. 6, note d, p. 40.
[4] *Ibid.*, Sect. 6, p. 40.

being, the principle of reflection or conscience, which too as plainly regards the interest of public as of private good.[1]

Such in brief is Butler's argument that man has a social as well as an individual end. Against this sort of argument Butler foresees that the obvious objection may be raised: "Has not man dispositions and principles within, which lead him to do evil to others as well as good?" He retorts by asking, "Has not man also dispositions and principles within, which lead him to do evil to himself, as well as good? . . . . It may be thought easier to answer one of these questions than the other, but the answer to both is really the same."[2] This rejoinder is sufficient to show that, if we make use of principles within us that lead us to do evil to our fellows to prove that we are not made to do good to society, then we must also argue from the existence in our nature of self-destroying principles, that we are not adapted to individual good and self-preservation. But this demonstrates simply that evil to others and evil to self are both to be explained in the same way; it merely states the whole problem rather than one-half of it, and does not solve the difficulty, which is undoubtedly a real one. Butler, however, proceeds immediately to give the clue to his final answer—an answer too which is to be found throughout the *Sermons* and the *Analogy*, and one which is easily deducible from his general position. It is simply a denial that there are any inward principles which lead man to do evil in the same sense that there are principles which lead him to do good.[3] As there is no general rational principle of self-hatred, so neither is there any general rational principle of malevolence toward our fellows. Further, particular affections never make for evil for its own sake: "there is no such thing as love of injustice, oppression, treachery, ingratitude, but only such and such desires after such and such external goods."[4]

If there are no inner principles which naturally prompt men to evil, how are vicious actions to be accounted for? Evidently such

[1] *Loc. cit.*

[2] *Ibid.*, Sect. 11, pp. 45–46.

[3] *Sermons*, II, Sect. 4, pp. 53–54.

[4] *Sermons*, I, Sect. 11, p. 46; cf. also *Analogy*, I, iii, Sect. 19, pp. 77–78.

conduct results from the perversion and excessive indulgence of principles which are in themselves natural and right, if rationally followed. Passions like emulation and resentment, by the abuse of which men are so frequently led on to the performance of all sorts of vice, not only are in themselves good, but also have a positive function in the maintenence of the moral order of life. "Emulation is merely the desire and hope of equality with, or superiority over, others, with whom we compare ourselves."[1] This, in itself and in its proper use, is, therefore, a passion which naturally has a most beneficial function; it is right and proper that one should possess an affection which would lead him to emulate the good deeds and the moral worth of another. Only when one emulates something which is not worthy of emulation, does it become vicious and lead to evil results. "To desire the attainment of this equality or superiority by the particular means of others being brought down to our own level, or below it, is," Butler thinks, "the distinct notion of envy. From whence it is easy to see, that the real end, which the natural passion, emulation, and which the unlawful, envy, aims at, is exactly the same; namely, that equality or superiority: and that consequently to do mischief is not the end of envy, but merely the means it makes use of to attain its end."[2] Thus envy, which has its root in emulation, is simply a perversion of the natural passion, a specifically named extreme, which awaits not the approval of any higher regulative principle, asserts itself on improper occasions, pursues unworthy objects, and scruples not at the means employed. The same case is made out for resentment in the eighth Sermon. In itself it is nothing more than the natural indignation every man feels upon seeing instances of villainy and baseness. It is an inward witness bearing testimony on behalf of virtue and against wickedness.[3] Butler distinguishes two kinds of resentment, hasty or sudden, and settled or deliberate, the former of which is called anger and often passion, and the latter resentment proper.[4] Deliberate resentment is needed to balance pity and to assist just

[1] *Sermons*, I, Sect. 11, note e, pp. 46–47.
[2] *Loc. cit.*
[3] *Sermons*, VIII, Sect. 19, p. 149.
[4] *Ibid.*, Sect. 5, p. 138.

severity.[1] Sudden or almost instinctive anger is useful for self-defence and individual preservation. Each is subject to its own peculiar forms of abuse and perversion, resulting, on the hand, in such vices as unreasonable resentment, malice, revenge, and on the other in that which is commonly called 'passion,' rage, and fury, "to which some men are liable in the same way as others are to the epilepsy," and peevishness, "which languidly discharges itself upon everything which comes in its way."[2]

In this way, by elaborate psychological analysis, Butler establishes his denial of the existence of inward principles which in themselves lead to evil. It was necessary for him to enter into the discussion somewhat in detail, since the difficulty was peculiarly important for him, and the validity of the teleological argument was in large measure at stake. If it had been found true that within human nature there were contradictory principles leading to opposing ends, then either it would have been illogical to deduce virtue as the end from the structure of our being, or our nature could not be regarded as constituted by organically connected parts. Taking both sorts of principles as existent, one could argue from design either to vice or to virtue as the natural end, or one could deny altogether the validity of such deduction since it landed in contradiction concerning the very point it was invoked to establish. On the other hand, if Butler had taken refuge in the fact that principles of evil could not meet with the sanction of reason, and, therefore, should not be allowed influence in moral conduct, his central doctrine of human nature as an organic whole would have failed. To debar any natural principles whatever from some function in the realization of the self, would be equal to the position that there are parts of our nature which do not properly belong to it.[3] This would mean that there is no real organic whole, and that the prescribed end is the end only of the highest part, and not one toward the realization of which our whole nature in all its parts can harmoniously coöperate. Although it is required that all action should be in accordance with right

[1] *Ibid.*, Sect. 16, pp. 146–148.

[2] *Ibid.*, Sect. 13, pp. 144–146.

[3] This would have forced Butler to adopt Shaftesbury's expedient of classifying certain impulses as 'unnatural.'

reason, still there is no Kantian barrier between inclination and duty, since all that reason insists upon is conformity of the action and its purpose with rational principles. So for Butler, evil action results from permitting our desires to run to wild extremes, unguided and ungoverned by the supreme faculty of our nature which claims sovereignty; it is the consequence of the destruction of the due and just proportion prescribed by reason. And, as was seen in the case of virtue, that, although the maintenance of the mean was the path or the process of the realization of the good, it nevertheless was not constituted by a purely quantitative distinction, that morality was not the mere preservation of an equilibrium, but that its essential nature lay in its accordance with right reason, or, in other words, in its rationality; so in the case of evil, although the destruction of the mean is the path along which men are led to vicious conduct, still the unique and condemnatory character of immorality is its non-conformity with reason's standard, that is, its irrationality.

It may be objected that to regard virtue as constituted by reason, is to represent Butler's system as a purely rationalistic one, inconsistent with the view of human nature as a whole; that, from this latter standpoint, the conclusion should be that virtue is constituted by the whole of human nature, and not by any one part of it. For Butler, however, although not for Kant, as has been previously noted, these two statements are identical, since the relation between the rational self and the sensible self is an organic one, in which reason s at once the highest part, and the principle of relation between all the parts. It is the governing principle, and governs on its own laws, but it does not act *in vacuo*. The sensible nature is the matter upon which it acts. The sentient self has a place, although a subordinate one, in the end of the whole. The end is not the end of reason alone, but the end of human nature as a whole, toward which reason guides all our inclinations in order that each may find its due place in the common end. Thus, although morality is constituted by reason, in the sense that reason governs on its own principles, and decides on man's true end, still this does not make morality purely rationalistic, because in one sense reason

is the servant which ministers to sensibility. In this aspect, reason is subordinate to the matter upon which it acts; but it is, nevertheless, supreme, inasmuch as the matter does not effect the subordination of reason, but reason of itself and on its own principles undertakes the function of guiding inclination. The union of parts is not, however, a "mere federation in which the good of the whole is to be consulted only in order that the good of each may be properly conserved."[1] While it is true that the relation of parts is "the subordination of certain factors to certain higher ones," it is not *merely* this, since reason fixes the subordination on its own principles, and thereby does give distinctive character to man and constitute his real unity.[2] The unity is the expression of reason. Consequently for Butler there is no inconsistency in saying that virtue is constituted by reason, and is nevertheless the end of man's whole nature, and not simply the end of the highest part.

Kant, on the other hand, makes reason constitute morality in the sense that the supreme and only truly moral end is one which appeals to reason alone, toward the realization of which inclination can never work. Nevertheless, he finally recognizes, as has been remarked in another connection, that man is a sensible-rational being, and introduces a *summum bonum*, which is to be the concrete end of man in his complete self-unity. But what right has Kant to such a synthesis of happiness and moral good in the "complete end"? After the complete differentiation of "weal" from "good," making good dependent on law alone, how can these contradictory interests of sensibility and reason become organically connected? In the *Analytic of Pure Practical Reason*, Kant tells us that "no doubt our weal and woe are of *very great* importance in the estimation of our practical reason;" that "man is a being who, as belonging to the world of sense, has wants, and so far his reason has an office which it cannot refuse, namely, to attend to the interest of his sensible nature, and to form practical maxims, even with a view to the happiness

[1] Cf. Webster Cook, *The Ethics of Bishop Butler and Immanuel Kant*, p. 41. Univ. of Michigan, 1888.

[2] *Loc. cit.*

of this life, and if possible even to that of the future."[1] But if happiness is entirely annihilated as a moral motive, if moral worth is denied to the whole sentient side of man, how *can* reason act in its interest? For reason to acknowledge the function of sentiency in the moral life would be essentially an irrational procedure no Kant's premises, on which happiness should have no ethical value in the eyes of reason. According to his fundamental principles, morality consists in acting from duty, or in accordance with the abstract universal law, and the test of moral conduct is rational, or rather *conceptual* consistency. Evil, therefore, consists in acting from inclination, and the test of evil conduct is conceptual contradiction. Action from desire would be heteronomous, and no maxim of conduct, derived from it, could be universalized as reason demands. But as we have to act partly from desire at any rate, Kant was led to the paradoxical conclusion that, from the nature of the case, we cannot be sure that any really moral action has ever been performed. According to his primary position, the whole content of morality and all the determining rules of conduct should have been deduced from the abstract law of duty, the test all along being the capability of the maxim to be made universal without conceptual contradiction. Such a position assigns to reason, not only supreme, but exclusive, value, and precludes all prudential considerations from moral action. The logical result of such a system of ethics is purely rationalistic. From such premises it would be impossible for reason to assume the task of working in the interest of sensibility. When, however, Kant turns from his formal law and endeavors to formulate and give content to the end or good of man, the notion of which he explicitly refused to adopt as the starting point of his ethical system, he is forced to the admission of the value of happiness. In this connection, he tells us "that it does not follow that this distinction, between the principle of happiness and that of morality is an *opposition* between them, and pure practical reason does not require that we should *renounce* all claim to happiness, but only that the moment duty is in question we should take *no account* of happiness." But

[1] Part I, Bk. I, ch. ii, p. 152 (Abbot's trans.).

duty is always in question, and its law is never to act from inclination. Still Kant says that "it may even, in certain respects, be a duty to provide for happiness."[1] This must mean that there is a real organic relation between the two, and, however much we take it as a statement of fact, the question of Kant's right to such a conclusion still remains. For Kant duty means *constraint*. We stand under a discipline of reason, and we must not "pretend with fanciful pride to set ourselves above the thought of duty, like volunteers, and, as if we were independent of the command to want to do of our own good pleasure what we think we need no command to do."[2] That is to say, we must not, under the military rule of reason, volunteer to do that which reason commands. Strange to say, however, such an harmonious coöperation of desire and reason is Kant's very ideal of moral perfection, or 'holiness.'[3] To suppose such a goal attainable is moral fanaticism.[4] Yet, whether attainable or not, it should follow that it is our chief duty, the whole business of our lives as moral agents, to strive to train our desires into conformity with reason, so that we may become more and more like the Deity. But Kant is not entitled to such a conclusion, since moral action must not and cannot be from desire, and this would lead to the elimination, rather than the training, of desire. We must set our back to the goal of moral perfection, rather than struggle toward it.

For Butler, on the other hand, this is the legitimate aim of our efforts. For him, too, the ideal is unattainable in this life, since human nature can never be perfected here. Still the guidance of inclination in the way of reason, the training of desire to rest in its proper end, and the following of desire when thus instructed by reason, is our moral duty. On Butler's principles this conclusion is consistent, because sensibility was not found to be in itself irrational, action from desire and from duty were never set up in abstract opposition, and the sphere of prudence was never precluded from that of morality.

In concluding this discussion, it is necessary to emphasize the

[1] *Ibid.*, Part I, Bk. I, ch. iii, pp. 186–187.
[2] *Op. cit.*, pp. 174–175.
[3] *Ibid.*, p. 176.
[4] *Ibid.*, p. 179.

fact that the individual to be preserved is not an isolated self, but a social self, and that the end to be realized is not a particular, but a universal, end. So far we have been concerned in the main with setting forth how the nature of the individual is conceived as a complete self-unity. It must be further noted how the relation between the individual and his fellows is equally organic. It has already been mentioned how, from the fact of the existence of social principles in our 'inward frame,' Butler demonstrates that the individual does not stand alone. As in the case of the individual, he argued from an organic subject to an organic end, so from the natural relations between the individual and his fellows, he argues to a common end which reveals the true self as universal. In the Kantian ethics, the only ground on which duties to others can be obligatory lies in the fact that the individual rational self, regarding himself as an end in himself, must also view every other rational self equally as an end in himself. Such a principle is purely rationalistic, and has no reference to man as a sentient subject. For Butler, however, social duties appeal to man's entire nature, and all our inward principles bear witness to the validity of such obligations.

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THE ALLEGED PROOF OF PARALLELISM FROM THE CONSERVATION OF ENERGY.

THE earlier protagonists of the doctrine of psycho-physical parallelism were content to rest their case upon a rather complicated argument from general analogy. The theory presented itself as an hypothesis which seemed to be demanded by the continuity between reflex action and conscious voluntary action, and by the known facts of mental pathology. Its general accord with some of the most vital tendencies of scientific thought, as well as its simplicity and elegance from a philosophic standpoint, were additional reasons for its acceptance. But since its practical adoption as the working hypothesis of modern psychology, a more summary method of proof has become fashionable. Like many scientific points of view originally established by careful induction, it has become an *a priori* principle. We are now told that it follows necessarily from the principle of the conservation of energy, and to doubt it is to doubt the "grandest generalization of modern science." Into this argument it is my purpose to inquire. It will be my endeavor not merely to expose the fallacy of the bare argument as given, but, if possible, to make the discussion more psychological—to get at the real origin of this curious belief. I shall make my best effort to get at, and answer, the real thought that underlies the argument, and not merely the argument itself as it stands. If I do not succeed in doing full justice to the supporters of the view, it will not be from failure to make every effort to see the problem as they see it. I trust then, whatever else I may be accused of, I shall not be accused of wilfully misrepresenting the argument I am attacking.

We may best approach the subject by taking a classical example of what may be termed an over-interpretation of the principle of the conservation of energy. It is frequently said that the laws of electro-magnetic induction can be deduced from the conservation of energy; and this is sometimes mentioned

as an instance of the wide application and extreme usefulness of the law. It has been shown, however, that this statement is not entirely true, and that as a matter of fact other principles are assumed in the alleged deduction which are by no means certain *a priori*.[1]

Let us take a simple case of the problem. We have two electric conductors carrying currents which attract each other. If now they are free to move, they will approach each other. That is, a mass of matter will acquire a velocity—kinetic energy has been produced. Now the principle of conservation tells us that this energy must have come from somewhere; there must be a corresponding diminution somewhere else. We are, therefore, forced to conclude that the approach of the conductors has led to a diminution of the current strength of each. That is, a reverse electro-motive force has been produced in each by the approach of the two circuits.

No, says the critic, not so fast. The first part of your statement is all right. Energy comes from somewhere. But how can you be sure that it comes from just where you suppose? Is it not possible that the current strength remains the same, but that under these circumstances the same current produces less heat in the conductors? How do you rule out the possibility that the battery, under these circumstances, acts more energetically? In fact are there not, *a priori*, an almost infinite number of possible sources of the kinetic energy that is produced, which only experience will enable you to rule out?

It is not necessary to follow this discussion further. Some of the alternatives proposed have been shown to be rather improbable, others have seemed very probable. For our purpose it is sufficient to point out that the principle of the objection is valid. The law of the conservation of energy never enables us to tell what becomes of the energy, but only that it still exists SOMEWHERE. If a moving body strikes another, we know that its energy will not be destroyed; but to know what does become of it we must appeal to the *experimentally established laws* governing the collision of bodies. How much of it will remain as

[1] Cf. Poincaré, *Electricité et optique*, II, p. 25.

kinetic energy in the body, how much be passed on to the body struck, how much be transformed into heat and other forms of energy—these are questions quite distinct from the mere question of conservation, and can be settled only by appeals to other principles. The conservation of energy is a single equation between several unknown quantities, and to try to find the value of any one of these from the single equation is absurd. Yet it is just this that one pretends to do, when he asserts that the conservation of energy demands that at a certain time, a certain quantity of energy must appear in a certain form, at a certain place. The equation $x + y = 5$ cannot be contradicted by any statement as to the value of x. Nothing can contradict it but an express statement that the sum of x and y is not equal to 5, or is equal to some other value. Similarly, the principle of the conservation of energy cannot be contradicted by any single statement as to the appearance or disappearance at any place of a quantity of energy, but only by an express statement that the *total quantity* of energy in the *universe* has been increased, or that energy has appeared at a certain point which has *not* come from elsewhere. The principle of the conservation of energy is only one of the laws governing the transformation of energy. To ascertain what transformations will take place in a particular instance, we have to know other laws applying to the particular case.

We may now gauge at its proper value the assertion that the freedom of the will—that is, a freedom manifested in the phenomenal world—is inconsistent with the conservation of energy. Such a proposition confuses two totally different questions. The question of freedom has to do with the laws governing the time and place of the transformation of energy, not with the quantity of the same. The conservation of energy would not in any way be interfered with, if there were an absolutely free alternative in any case as to whether a given quantity of energy should retain its form or be transformed, provided that the quantities were the same in each case. It might, for example, be an absolutely unpredictable affair whether a falling body should, on striking the earth, remain there, and therefore have its energy transformed into heat, or rebound to an equal height. The falling body might

be absolutely free as to these alternatives and still obey the law of conservation of energy. As a matter of fact, something like this is the case. That is, all falling bodies do fulfill the conservation of energy, though they vary in all possible degrees in their behavior on striking—some rebounding to almost their original height, others hardly rebounding at all. So far as the conservation of energy is concerned then it cannot matter what happens. As a matter of fact, the same body, under the same circumstances, seems to behave in the same way. But if the same body under the same circumstances behaved *differently*, it would still be possible for it, amid all its vagaries, to obey the law of conservation; because other bodies, whose regular behavior is strikingly different from its own, still obey that law. So long as the free body imitates their behavior it satisfies the law. The conservation of energy, therefore, still leaves the body many degrees of freedom.

The question of the interaction of the psychical and physical involves the same principle. Given a psychical state A and a physical one B, what has the principle of conservation to do with their causal relation? Suppose A is the cause of B, what then? Well, says the upholder of the *a priori* argument, in that case whence comes the energy represented by B? The irrelevance of the question can best be brought out by an absurd answer. I will suggest that possibly it comes from the other side of the moon. Absurd, you say, why from there? What has the other side of the moon got to do with the problem? But this is an appeal to the principle of sufficient reason, which is quite another matter. So far as the conservation of energy is concerned, the hypothesis is flawless. The existence of the psychical state A is the necessary and sufficient condition for the transfer of a certain amount of energy from the other side of the moon to the spot of the brain in question; just as the existence at a certain point of an obstruction, is the necessary and sufficient condition for the transformation of some of the kinetic energy of a moving body into heat. Of course, we can make less extravagant hypotheses, but an extreme case of this kind serves to bring out the essential principle even better than one which is intrinsically more probable.

But an argument is never really satisfactorily answered until we have taken a sympathetic point of view. Why is it that to so many persons there seems to be a contradiction where we have not found one? What mistakes have they made in the interpretation of the principle that is responsible for their belief? If not the conservation of energy, perhaps some other principle that they have confused with it, is involved in the argument, and we have not yet got at the real inwardness of the question.

This is certainly the case, and we must follow up the matter until we have discovered the real thought involved in the theory, and decided whether its logic is straight; and, if so, whether the principle appealed to is one that we must accept with that fullness of faith that we are inclined to accord to the conservation of energy.

The idea underlying these alleged proofs of parallelism is that for *A* to *cause B*, *A* must itself be the *source of the energy* represented by *B*. When Höffding[1] says that, if a physical state causes a mental state, the energy of the former disappears, his idea obviously is that to cause is to hand on one's energy to the effect; and as the effect, the psychical fact, cannot contain the energy, the latter must disappear. That this is his thought is further shown by his immediately going on to show that it is impossible that the psychical fact should represent energy. Ebbinghaus clearly has the same idea, for after disposing, as he holds, of the freedom of the will, he goes on to discuss the only form of interaction that he regards as consistent with the law of conservation, namely, that form which regards the psychical fact as itself a form of energy. These writers have thus interpreted the modern doctrine of the conservation of energy in terms of the old ideas of causation. For them, every physical fact has a definitely assignable cause, and something passes *from* the cause *into* the effect, and that something is energy. The language is the language of science, but the thought is the thought of Aristotle.

How far is such a view necessary, or even justifiable? First, as to the general view of causality that is implied. Energy is something that belongs to things, to passive conditions. Is

[1] *Psych.*, pp. 55–56. (Eng. Translation).

causation really a relation between such things, or is it not rather between events that can hardly be conceived as representing energy? I think most scientists would say the latter. Science is coming more and more to talk of uniform sequence of events rather than of distinct causes. For science, certain events happen under certain circumstances. It is always stretching the apparent facts to say that *A* is the *cause* of *B*. For practical reasons we pick out one from the necessary conditions of the occurrence of the phenomena and call that the cause, but frequently it might as well have been another.

The inadequacy of this method of describing the order of nature may be illustrated by a simple example. A ball is thrown into the air. It rises for a while and then falls. Can we describe what takes place in the simple language of cause and effect? What, for instance, is the cause of the ball's rising? Its own motion might be suggested as the answer. But is it conducive to clearness to thus separate the motion of the ball from the ball itself? Motion in the abstract is certainly a strange *physical* cause! The energy of the moving ball is as dependent upon the mass of the ball as upon its motion. To separate them is of course perfectly possible in thought, but to ascribe to them when thus separated independent physical reality and causal efficacy is to land in doubtful territory at once. No, the only scientific way of describing the order of events is to say that a moving body does in fact always tend to keep on moving. We cannot assign a definite cause, we can only formulate the first law of motion, and thus show that a large number of cases of this kind admit of being regarded from a common point of view,—of being apperceived by each other.

We may advantageously follow the case somewhat further. What makes the ball fall? If we are to pick out another body, another material thing, as the cause, it must be the earth. But the facts are not so simple. The earth has been there right along, but the ball fell only at a particular moment, namely, when its upward motion ceased. Moreover, it would not have fallen, unless unsupported. If someone had dropped the ball, we should certainly have regarded that as the cause of the ball's falling. It dropped,

we would say, because he let go of it. But this is not all. Had the ball been lighter than air it would not have fallen, but risen, and among the causes of its rising we would have to include this fact. It rose, we would say, because lighter than air. But suppose its weight had been very near that of air. Then sometimes it would rise and sometimes fall, depending upon the height of the barometer. On the occasions when it rose, we would say it rises because the air is light to-day. Thus the cause varies under different circumstances, and it is not possible to pick out a single cause of an event which shall be in itself sufficient, let alone a cause which shall be a material thing. Science in its analysis cannot follow this popular method. It must largely give up the idea of describing everything as an effect of a particular cause, and seek to state all the conditions and circumstances under which the event in question may occur. When it does occur, it is due to the simultaneous occurrence of a variety of conditions and circumstances, no one of which may be said to be the cause.

Now if we knew the inner mechanism of all these matters, we might, perhaps, have less difficulty. We might, for example, find that the body always fell when the sum of the blows struck upon one side by certain small particles was greater than the sum of the blows upon the other side. In this case, we might point uniformly to a definite immediate cause. But, as we shall have occasion to consider more at length later on, such a cause would always be hypothetical and doubtful. We could not, probably, by its aid, point to any *first hand fact*, any object *immediately given in experience* as the cause.

If the general view of causation that seems bound up with the theory we are examining seems thus questionable, the second part of the assumption fares even worse when examined in the light of the facts. Does energy always pass from the cause into the effect? Do all the circumstances and conditions which determine the occurrence of an event contribute the energy which is transformed during the event?

The appeal must be to the facts. Here is a heavy ball at the end of a string, going round in a circle. According to the first law of motion that ball ought to travel in a straight line. Its

deviation from the straight line is due to the continual pull of the string. I do not see how anyone can avoid saying that it is the string that keeps the ball revolving in a circle, if he is going to pick out a cause at all. Yet not a bit of energy passes from the string into the ball. Indeed, a stretched string possesses very little energy. If instead of the string we used a heavy steel rod, the tension in it would represent still less energy, but it would do the work quite as well theoretically, and practically a great deal better. If the string should suddenly break, the ball would fly off, and the cause of this would certainly be the breaking of the string. But under these circumstances no energy passes from the string to the ball at all. Here there is *no transformation of energy*, but there are events, and important events, and there is causation if there is anywhere.

But it will, perhaps, be more satisfactory if we take a case where there is transformation of energy. Two balls of the same material, of equal mass, and of equal but opposite velocities, meet. A part of the energy of each is converted into heat, depending upon the value of the modulus of elasticity, and a part remains as kinetic energy as the bodies rebound. Let us consider one of these bodies. What caused the changes in it? If we are to select another body, it would have to be the body struck. Of course, this is a conspicuous case of the difficulty of selecting a *thing* as the cause, and no scientist would describe the affair in that way. The present total condition of things is the lawful result of the previous condition. The causal relation is to be found in the *event* of their striking, a purely abstract affair having no energy connected with it. But if the cause is to be found in some other thing, in some reservoir of energy, it must be the other ball. And yet to the best of our knowledge no energy passed from the one into the other. The striking against the other ball, and therefore the existence of the other ball at that particular time and place, was the sufficient condition for the transformation of a part of its energy into heat, and the change in the direction of its motion; but it received no energy from the other.

But perhaps our argument will be still more convincing, if we take a case where energy actually does pass from one body into

another, and show that even here the causal relation is not confined to the bodies taking part in the energy changes. Suppose we consider a dynamo operated by a water wheel, and supplying light for a distant town. The transformations of energy are familiar to everybody. The kinetic energy of the water is handed on to the wheel and into the armatures, and there converted into electrical energy; carried to the city, and there converted into light. The whole may be regarded as an apparatus for converting the kinetic energy of the water into light. But now consider what would happen if the field magnets were removed. The lights would go out, and the energy of the water would be dissipated into heat in the bearings of the wheels and against the idle brushes. What determines which of these two paths shall be taken by the energy, is the existence or non-existence of an electro-magnetic field in the neighborhood of the rotating coil. But no energy passes from the magnetic field. The field magnets are not a source of energy in the plant. The mere passive existence of the field, the mere presence of the magnet, makes all the difference. So long as it is present, the energy passes along the useful path and lights the town; if it is absent, the energy travels along a different and useless path. The case is perfectly analogous to what those who believe in the interaction of mind and body must suppose to be the action of the psychical upon the physical. The existence of the psychical fact is the necessary condition for the passage of the energy along a certain path. If it does not exist, the energy will pass along some other path.

Now once more it must be admitted that, if we knew exactly the *modus operandi* of things, we might, perhaps, make out a case for the view that the true cause is the source of the energy. But between a view which, as scientists, we *must* accept, and one which may possibly at some future time be shown to be probable, there is a vast difference. At present, the facts do not point to any such relation. The energy seems to pass from the kinetic form into the electric in the moving wires. The electro-magnetic field seems to act like the stretched string. It is certainly not a source of energy, nor can we see that the energy really passes through it. In the present state of our knowledge, we can say

only that the presence of the electro-magnetic field is the essential condition for the kinetic energy of the rotating coil to be transformed into electric energy.

The view that the cause hands on something to the effect, that some kind of force passes from the one into the other, is not a scientific theory, but a survival of scholastic metaphysics. It is a view that would never have been suggested by strictly scientific methods of thinking. So far from supporting it are the known facts, that they distinctly indicate an opposite view. When we trace the path of *energy* (the only thing with which modern science is acquainted that seems to promise identity with the primitive notion of efficient cause), we find that path apparently determined by other conditions. The laws governing the sequence of events are not so simple as the modern Aristotelians would have us believe. The occurrence of any given phenomenon may depend upon a great many conditions and circumstances, and among these necessary antecedents there are some which do not seem to contribute to the energy of the consequent at all.

What, then, is the result of our analysis? The interaction theory is not in conflict with the doctrine of the conservation of energy, but with a particular theory of causality. This theory, when we come to examine it, turns out to be *not* the inexorable verdict of science on a question of fact, not even a point of view which the progress of science is tending to constantly press to the front, but a flagrant bit of pseudo science—a survival of obsolete ways of viewing natural phenomena, against which science has always had to struggle. This summary method of settling a great question turns out to be not a simple appeal to the "grandest generalization of modern science," but a bit of *a priori* metaphysics masquerading in a naturalistic nomenclature.

Have we followed the question to its end? Is it not probable that deeper than we have gone there is an objection to interaction which has a healthy scientific instinct back of it? It does not seem likely that scientific men would be found to have so strong a bias in favor of the parallelistic view, if that view did not fulfill a real scientific need. The view which we have been examining may be all that we have seen, and yet be something more. We have

seen the fallacy, but where is the truth that nearly always accompanies error? There certainly is another aspect to the question, though we have completely disposed of the argument, I think, so far as the energy question is concerned.

That which really is in conflict with the interaction theory, and which has, I believe, guided all objectors, however much they may have believed themselves to be thinking about the conservation of energy, is the mechanical theory of the universe. Indeed, this view is often confused with the conservation of energy, owing, I believe, to the accident that the most conspicuous application of the former, the mechanical theory of heat, is the region in which the conservation of energy was first demonstrated, and in which it has been most completely tested.

Höffding appeals to the mechanical theory at a critical point in his proof of automatism without, however, mentioning it as such. He is answering the argument that the effect of the psychical fact may be to change the direction of the moving particle, and therefore not affect its energy. He replies that this will not do, because nothing but a physical force can move, or change the direction of motion of, a material particle. Yet strangely enough he does not seem to realize, that if this once be admitted, there is no need of bringing the conservation of energy into the dispute. If nothing but a physical force can affect matter, why then, of course, a psychical fact cannot, by hypothesis, do so, and there is no necessity of any more argument about it. Ebbinghaus is somewhat better, in that he explicitly mentions the mechanical theory as the only bar to accepting interaction with the assumption that psychical facts are a form of energy.

Of course there cannot be any question as to the correctness of the argument. The mechanical theory assumes that there is nothing but matter and motion to be considered in the explanation of the order of nature. If it be accepted as final, and *objectively valid*, it has of course far more wide-reaching effects than the rendering impossible of interaction. I have no wish to bring these consequences into the argument, however. The religious side of the question need not concern us here.

Have we come so far only to find that in the end we must

yield? If interaction is inconsistent with scientific truth, it does not much matter whether it is the conservation of energy or the mechanical theory that compels our surrender. It is an interesting logical point, but not very important. Well, there is a difference, and it is just the difference between an observed fact and an unproved hypothesis. The mechanical theory is not, as I hope to show, a very formidable foe. It has not yet reached the stage where it is binding upon other sciences.

First of all we must make a distinction, the failure to make which is the cause, I believe, of much of the misconception that prevails in the subject we are discussing. We must distinguish, that is, between a *mechanical* and a *dynamical* view of nature. The word 'mechanical' as commonly employed has a wider and a narrower significance. In the wider sense, it is simply opposed to intelligent or teleological. In this sense, any action in which the effect is determined exclusively by the antecedents, with absolute disregard of consequences, may be said to be mechanical. In such a sense, we may speak of the mere mechanical association of ideas, as a process apparently different from the associations that go on when we are thinking intelligently. Now in this wider use of the word, there is no antagonism between the mechanical theory and interaction. The relation of antecedent to consequent may be as fixed and immutable, as utterly regardless of consequences, when these antecedents are psychical, as when they are physical. The relentless manner in which some hypnotic suggestions work themselves out suggests a very great uniformity between antecedent idea and resultant motor reaction, and in the larger sense of the word may be described as mechanical, without at the same time denying the causal efficacy of the idea as such. All scientific methods of explanation are mechanical in this sense. But by no means all—in fact, as we shall see, only a small portion—are mechanical in the more narrow sense.

In the narrower use of the word, it is equivalent to dynamical. The mechanical theory of the universe means that all laws can be reduced ultimately to the laws of motion. Not only is the relation between antecedent and consequent absolutely uniform, but it is always the relation that exists between moving bodies,

or the direct consequence of it. I shall throughout the rest of my discussion use the expression 'dynamical' instead of 'mechanical,' as less ambiguous in its significance. It is the *dynamical* view of nature *alone* that demands a giving up of the interaction theory. After this slight digression we may return to our problem. What is the difference practically, between being at variance with the law of the conservation of energy, and being opposed to the dynamical view of nature?

First, an aspect of the problem which is of interest primarily to the philosopher. The conservation of energy is simply a compendious statement of a number of directly observed facts. It is hypothetical only in so far as it extends the law beyond the limits of accurate observation. If stated approximately, it would be absolutely true—a mere statement of the results of a number of measurements of *directly observed quantities*. The law is of course not usually stated in this purely empirical form. The usual statements imply that there is a single reality, energy, whose form alone changes. This is, of course, speculative. But it is quite possible to state the law without any such assumption. We can regard energy as a *class* name, not as an individual name. The law of conservation then simply states the constancy of the sum of the quantities thus defined. When so modified, the law loses some of its attractive suggestiveness, but nothing of its importance.

The dynamical theory stands upon an entirely different footing. Except in the region of ordinary mechanics and astronomy, it deals necessarily with realities not given in experience. For metaphysics it rises or falls with the reality of atoms. For what at most can the dynamical theory show? The utmost it could prove, if it were completely worked out to-day, is that *if* we make a certain assumption as to the real nature of matter, then all its phenomena can be deduced from some given primitive state of things and the laws of motion. But it can never prove that these fundamental assumptions are really valid, or that an entirely different set of hypotheses might not serve equally well to explain the effects. Philosophy, therefore, even if the dynamical theory were an accomplished fact, and not merely an ideal, would have a

right to treat it as merely a point of view, a convenient fiction, useful for predicting events, but not in any way binding upon an investigator of other problems. The conservation of energy, on the other hand, is binding upon every shade of philosopher. It is a simple statement of the facts of pure experience as such, and cannot be ignored by any point of view, however ultimate. To philosophy then, it makes a great deal of difference whether interaction is inconsistent with the conservation of energy, or with the dynamical theory.

The scientific psychologist, however, is in a different position. He is concerned not so much with the absolute truth of the dynamical view, as with its usefulness as a method of formulating facts. In his behalf, therefore, we must inquire into the purely scientific side of the question. Have the triumphs of the dynamical theory been so great in other sciences? Is it so preëminently and exclusively the point of view adopted by all other sciences, that the psychologist is compelled to accept it at the outset, without question, in his own field?

The dynamical theory is such a beautifully simple affair, it agrees so well with our conception of the unity and simplicity of nature, it promises such elegant mathematics, such perfect clearness and certainty in our reasoning, that it is little wonder that we constantly strive to picture nature in its terms, and thus anticipate the day when this great intellectual ideal shall be an accomplished fact. But a great scientific theory must not be accepted on account of its æsthetic value merely. The more alluring it is, the more must we be on our guard. There is abroad what seems to me a most dangerous tendency to assume the whole dynamical theory, as the necessary hypothesis of science.

A most interesting, and, for us, important, case is found in the assumption, made by every one who discusses this question of the relation of the psychical to the physical, that the physical basis of mind is motion. 'Can consciousness affect the motion of matter?' is always the crucial question. That the physical condition involved is a motion is never thought worthy of discussion. Now, there is not, I believe, the least warrant for this assumption. The physical basis of mind may not be motion at all.

The pictures so often drawn for us, in which we are shown atoms moving about and taking up various positions in the molecules, and in which the nature of the different forms of energy is so confidently expressed in terms of their motion, is really little more than the scientific imagination out for a holiday. The beautiful dynamical theory is as yet but little more than a beautiful dream. In the science of physics it rises to the dignity of a working hypothesis. In other sciences it is at most a hope. Personally I share that hope, but I do not see that that entitles me to call another man unscientific, because he may prefer to attempt the formulation of phenomena in other terms. For, if we rigorously exclude from our thinking all *a priori* elements, and all the prestige which the dynamical theory obtains from its simplicity, and readiness of dogmatic interpretation; if we exclude, too, hardest task of all perhaps, the attraction that lies in its vigorous negation of the pseudo miraculous—if we confine ourselves to the calm consideration of the *actual evidence* in favor of the dynamical theory, we shall find that, thus boiled down, it amounts to extremely little. It has been actually worked out in only a portion of the single science of physics. For we must remember that the evidence for the view must be drawn from phenomena that are not apparently and obviously dynamical in their nature. Astronomy, for example, deals with phenomena obviously dynamical, and, while the proof it affords of the spatial universality of the laws of motion and of gravitation is most important, it can hardly, it seems to me, be urged as evidence that phenomena of a *totally different character* are also dependent upon motion. The same holds, of course, for what is commonly known as mechanics—the laws of falling bodies, the theories of the structure of buildings and bridges, etc. In the domain of sound, we first begin to find applications of dynamics of the kind necessary for founding the dynamical theory of nature. But even here the evidence is hardly ideal. Sound is a case, largely, of molar motion. The sounding body may often be actually seen to be in motion, and it is this actually observed motion which gives rise to the sound. In the discussion of the conduction of sound also, we are largely concerned with those properties of bodies which

are directly observed, such as their mass, elasticity, etc.—properties which, according to the dynamical theory, are due to molecular motions and attractions, but which *in the theory of sound we mostly assume as given.* In brief, the theory of sound furnishes no evidence of that view which is at the very foundation of the extension of dynamics to all the phenomena of nature—the view, namely, that the properties of matter not obviously dynamical are really due to the dynamical relations of hypothetical atoms. Evidence in favor of this essential point in the dynamical theory is very slight. Boiled down, it amounts to little more than the kinetic theory of gases. Now, I have no desire to make light of this great achievement. I fully admit the tremendous prestige which this great conquest quite rightly gives to the hypotheses and general points of view by which it was gained. Nevertheless, we must not forget that after all the kinetic theory of gases is only a *single* chapter in the *single* science of physics.

There is some tendency, I think, to regard every application of mathematics to physics as evidence for the dynamical theory. This is not justifiable. Much of mathematical physics is really not dynamical at all; much of the mathematical theory of heat was developed before the dynamical theory of heat. Most of the mathematical treatment of light has nothing to do with the view that it is really a vibration; it deals only with its periodic character, and is consistent with any theory of the real nature of light which recognizes this periodic character. Still more of mathematical physics is of the character spoken of above in connection with sound. It deals with the known properties of bodies, and not with their supposed atomic causes. Science is, in fact, much more 'positive' than the dynamical theory. Mathematical physics does not deal with molecules nearly as much as popular physics; and when it does try to, it has by no means been uniformly successful. Now much of this non-success of molecular physics is perhaps due to the inability of mathematics to cope with the problems presented by it. On that account we are justified in retaining our *faith* in dynamical ideas if we choose to, and, in some respects, at least, I, for one, do so choose. But surely the mere fact that we can *explain away* the lack of striking progress

in molecular dynamics, is no adequate ground for forcing the theory on all comers and upon all sciences! The most dangerous theory for a science to have anything to do with is one that can be neither proved nor disproved, and the dynamical theory, propped up by our ignorance of mathematics, comes dangerously near that condition.

If the usefulness of the dynamical theory is thus doubtful in some portions of physics even, its usefulness in other sciences is subject to still graver doubts. The science of chemistry, for example, which for beauty and accuracy of reasoning, rapidity and healthiness of growth, and even in industrial importance, almost, is certainly not second to physics—this whole great science has never derived anything from the dynamical theory. The internal dynamics of the molecule is a *terra incognita* to analytic mechanics. We do not know whether Newton's laws of motion apply to the motions of atoms—we do not know even that atoms move at all. A totally different line of hypotheses may be necessary to explain the laws of chemical combination. When so eminent a chemist as Dr. Ostwald, a man who is an accomplished physicist as well, gives it as his deliberate opinion that the dynamical theory has outlived its usefulness, we may well be surprised to see the young science of psychology propose to assume the entire theory as its starting point! It is interesting to notice in this connection, that whereas the writers whose views we have been considering seem to find in the conservation of energy a sort of proof of the dynamical theory, Dr. Ostwald looks to the idea of energy to replace the dynamical theory.

We are now in a position to return to our original problem, as to whether it makes much difference to scientific psychology whether interaction is inconsistent with the conservation of energy, or with the dynamical theory. The conservation of energy is a principle that, in so far as it applies at all, applies to all classes of phenomena. Chemistry and physiology alike with physics own its sway. To deny its application to brain action by taking advantage of the fact that the experimental error is so much larger in physiology than elsewhere, would be a very questionable procedure for a psychology that aims to be in line with

natural science. But with the dynamical theory it is otherwise. Brain action, considered from a purely scientific standpoint, without regard to its peculiar psychical concomitants, belongs to a group of phenomena to which the dynamical theory has never been successfully applied. All the analogies of physiology point to the action of the nervous system being primarily chemical, and chemistry, as already pointed out, has not developed along the lines of the dynamical theory. The behavior of the molecule regarded as a unit has yielded somewhat to dynamical investigations. The behavior of the *atoms within* the molecule has never been expressed dynamically. The laws of chemical combination and dissociation have not been formulated in this way. Here, again, the striking difference between the conservation of energy and the dynamical theory comes out. The consideration of the energy relations has been most useful in chemistry—the dynamical theory, barren of definite results.

Once more let me insist that I am not attempting to prove that the dynamical theory has outlived its usefulness. I am simply protesting against the dogmatism that would represent the theory as already proved—that would make a point of view that happens to be very common in physics, the necessary presupposition of all science. There is a tendency to-day to regard the working out of the dynamical theory as the sole problem of science. There are persons who will readily admit all the claims here made as to the small amount of actual proof forthcoming; and fully admit that in any case it is only a convenient fiction. But they will claim that by science we mean the effort to interpret phenomena in terms of this particular fiction, and that, therefore, by definition all science must be dynamical. I cannot but think that this view is largely the result of a failure to distinguish between a mechanical and a dynamical theory. That a mechanical point of view, in the large sense, is necessary for science, I am willing, for the sake of the argument, to admit. Granted that except where the consequents are determined solely by the antecedents, and according to absolutely uniform laws, there is no field for science; it does not, therefore, follow that the nature of that uniformity must be expressible in dynamical terms. Such a view leads to

conclusions that are absolutely untenable. According to this view, we have to-day no science with the exception of a small portion of physics.

The other sciences are called such only by courtesy. They are sciences in the same sense in which every western village is a city —may some day become one. Similarly, all the so-called great scientists, with the exception of a few, have not really contributed to the advance of science as yet. All we can say is, that, if the advance of knowledge continues long enough, their work will some day bear fruit; will be seen to have been a necessary stage in the development of a science. The Darwinian theory, for example, is only a useful semi-scientific formulation of the order of events, that is paving the way for a future science o biology. If through any accident the advance of science should be checked, this theory, though interesting and useful, would have no scientific value.

Of course it is not possible to accept any such definition of the word science. It would be absolutely contrary to universal usage. But the question of names aside, the fact remains that the dynamical theory is not necessary for the advancement of those branches of knowledge with which psychology is most closely connected, and whose success in introducing order and system into the chaos of phenomena she emulates. It is still an open question whether all phenomena can be expressed in terms of the dynamical theory or not. Such being the case, the value of knowledge that systemizes facts in other ways cannot be questioned, nor a merely temporary value assigned to it. So far as we can see at present, we are as likely to hinder, as to advance, the organization of experience, by accepting the dynamical hypothesis in full. Thinkers who regard the dynamical theory as an end in itself will of course risk this chance of wasting their efforts, and abide by the results. But those of us who regard the dynamical theory only as a means to an end, will want better proof that it is the surest and best means for attaining that end, before we definitely and finally close the door to other hypotheses.

Psychology to-day accepts the parallelist hypothesis, not be-

cause it is in harmony with the dynamical theory, but because it accords strikingly with the facts of cerebral physiology. It is a working hypothesis to be used as long as it proves useful, and discarded as soon as it comes in conflict with facts. It is not the starting point, but the first and most important big *result* of physiological psychology, a growth from within, not an importation from physics. The *a priori* proofs turn out, upon examination, to be without adequate foundation, an outgrowth of a confusion between two scientific principles, liberally mixed with metaphysics of a very questionable kind. For the psychologist of the present, it makes very little practical difference, perhaps, whether parallelism be an imported or domestic commodity. It is the accepted hypothesis of his science, and will probably remain so for many years to come, in any case. But to the philosopher, it makes a great deal of difference ; and to the psychologist of the future, it makes a great deal of difference. It is always hard enough to overthrow a theory that has been accepted for a long period, even when it boasts no higher pedigree than is furnished by its accord with a large number of facts within the particular branch of science in question. How much harder then will it be to go back to the interaction theory, should the facts demand it, if the next generation are allowed to grow into the conviction that science is impossible save upon the parallelistic hypothesis! It is never safe to let an error masquerade as truth whether we see any immediate bad consequences or not. To many, interaction may seem a possibility so improbable as hardly to be worth the saving, and the preceding discussion a mere question of logic. I cannot accept such a view. When I reflect that perhaps none of the guesses at the riddle of existence that have thus far been made may be anywhere near the truth, that the universe is perhaps a vastly bigger thing than our present knowledge dreams of, it seems to me to be of the greatest importance that every possible theory of life, every view to-day tenable, should be kept open. Interaction seems to me to be one of these *tenable* views, and, as such, worth defending, and keeping in the background of one's mind as a possible aid when more popular theories fail.

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DISCUSSIONS.

PROFESSOR JAMES ON PHILOSOPHICAL METHOD.

THE address delivered last summer by Professor James before the Philosophical Union of the University of California, has lately been published at Berkeley by the University Press, under the title *Philosophical Conceptions and Practical Results*.

Though this address disclaims any aim at technical precision, it possesses the uncommon interest of being its author's chief or only express treatment of the question of philosophical method. And, carefully read, it has the further interest of connecting and unifying in a striking way the scattered and purposely unsystematic philosophic suggestions to be found in his *Principles of Psychology*, his volume of essays, his little monograph on *Objections to the Doctrine of Immortality*, and articles still uncollected. The bulk and standing of Professor James's work as a psychologist have tended to turn away attention from his philosophical thoughts. The extremely unpretentious and, as it were, casual manner in which he has often thrown these out has contributed to the same result. Those whose purely philosophic interest he has arrested have generally bestowed it all upon his defence of voluntary faith, of indeterminism, and of the theory that mind acts upon body. But in reality his suggestions in this kind are many, and they gather, to the observant eye, into a *Weltanschauung* as coherent, as radical, and as individual, as any that the later thought of the century has produced.

The present address seeks to define for a semi-popular audience "what seems to be the most likely direction in which to start upon the trail of truth." It accepts the rule of 'pragmatism,' which Mr. Charles S. Pierce[1] offered (*Popular Science Monthly*, Jan., 1878), as a means (after familiarity and definition) of attaining the 'third degree of clearness' in scientific thought, and, giving it a broader statement, erects it with much illustration into a method of philosophic procedure. "Thought in movement, has for its only possible motive thought at rest," which is belief. "Beliefs are really rules for action; and the whole function of thinking is but one step in the production of habits of action. If there were any part of a thought that made no difference in the thought's practical consequences, then that part would be no proper

[1] W. K. Clifford outlined a somewhat similar conception in his essay on "The Aims and Instruments of Scientific Thought" (*Lectures and Essays*).

element of the thought's significance . . . Thus to develop a thought's meaning we need only determine what conduct it is fitted to produce;" or again, "what effects of a conceivably practical kind the object may involve—what sensations we are to expect from it, and what reactions we must prepare. Our conception of these effects, then, is for us the whole of our conception of the object, so far as that conception has positive significance at all." Thus the author states Mr. Pierce's drift. "But I should prefer," he goes on, "for our purposes this evening to express Pierce's principle by saying that the effective meaning of any philosophic proposition can always be brought down to some particular consequence in our future practical experience whether active or passive." Our ultimate test is indeed the conduct the proposition inspires, "but it inspires that conduct because it first foretells some particular turn to our experience which shall call for just that conduct from us." The principle is applied to atheism in its relation to naturalism, and to the scholastic 'inventory' of God's attributes. Some of these attributes, thus tried, confess their emptiness at once. God has 'meant' to men certain inward experiences and certain activities in relation thereto. These experiences have been such as "conversations with the unseen, voices and visions, responses to prayer, changes of heart, deliverances from fear, inflowings of help, assurances of support whenever certain persons set their own internal attitude in certain appropriate ways." The same pragmatic method affords the only hope of settling the interminable contest between 'monism' and 'pluralism.' We must ask what it means to call the universe 'one' in terms of our physical or mental behavior toward it. And the author gives some tentative intimations of a plan of treatment. Unity may mean that thought passes continuously from part to part, or that in some respect (which must be specified) it can collect the whole, or that (again in some closely defined respect) it can treat all the parts in the same way. Thus the author is led to identify his principle with the way in which English empiricism from Locke to Mr. Shadworth Hodgson investigates a conception. They ask, he says: "What is it *known as?* In what facts does it result? What is its *cash-value* in terms of particular experience? And what special difference would come into the world according as it were true or false?" "The shortcomings and the negations and baldnesses of the English philosophers in question come, not from their eye to merely practical results, but solely from their failure to track the practical results completely enough to see how far they extend. Hume can be corrected and built out, and his beliefs enriched, by using Humian principles exclusively and

without making any use of the circuitous and ponderous artificialities of Kant."

It is of course true that between Mr. James's maxim and the classic English method there is the bond of a common empiricism, and a common principle of subjecting concepts to psychological analysis. But, it may be added, there is also a striking contrast. The analysis of the English philosophers, broadly speaking, was not pragmatic, but genetic; they asked of a conception whence it came; Mr. James asks whither it goes. They asked what were the originals of the conception, from what simple ideas of experience, or from what 'impressions' it was put together, and (in a later stage of the school) by what 'mental chemistry' the fact of its composite nature was concealed. He asks what effect upon our action the conception is destined to have in the future. Both are empirical; but they appeal to past experience, he to 'future practical experience.' And this is but an expression of his prevailing thought. This thought might be described as a profound application of certain Darwinian ideas. The environment does not work upon and mould a plastic organism, but an organism, with its own chance-born tricks and originalities, runs its hazards and tries its luck against a formidable environment. Experience does not make organisms or faculties or conceptions, but it tests and winnows them when they have been made. It is instructive to trace this and its kindred thoughts through the bulk and diversity of Mr. James's work. The stress is on spontaneous activity and on risk. Our impulsions do not come securely guaranteed. The last chapter of his *Principles of Psychology*, and his essay upon "Great men" are obvious instances. In "The Moral Philosopher and The Moral Life" the need is urged of ethical experiment, and of putting into practice 'brain-born' sentiments of fitness to be surely tested by experience. In the advocacy of voluntary faith, the stand is taken of a 'radical empiricism' which views 'its most assured conclusions' as 'hypotheses liable to modification in the course of future experience.' "If religious hypotheses about the universe be in order at all, then the active faiths of individuals in them, freely expressing themselves in life, are the experimental tests by which they are verified, and the only means by which their truth or falsehood can be wrought out." In ethical connections, will is distinguished as 'the essential root of human personality,' of a value wholly incommensurate with that of 'the greatest intellectual power' and 'the most elaborate education.' And it is will, not as manifested in a bare consistency or a hollow legality of action, but conceived as deep spontaneous impulse, to which a central place is thus

accorded. Spontaneity in its higher forms is in effect taken out of the realm of lawful happening within which Darwin kept it, carried up into metaphysics, and regarded as an ultimate category. Mr. James's psychological treatise is often lightly accused of inconsistency. Why such a zealous and thorough application of mechanical law in the chapters on cerebral physiology, habit, association, instinct, emotion, etc., and such an arbitrary departure from it elsewhere? It is an undiscerning criticism. The departure is in no sense capricious. It takes place only as regards will—strictly speaking, as regards that voluntary attention which is in the author's view the last stronghold of spontaneity, which in its turn is the highest category, in a sense, of the author's thinking. In his philosophical pluralism, too, his essential demand is that the world of the will, the world of moral realities and hence of moral contingencies, the world of free individuals, shall not be given over as an illusion. In the matter of 'free will,' of the unfettered 'will to believe,' and of the will's prerogative of 'steering a nervous system grown too complex to regulate itself,' the emphasis is the same; it is upon a spontaneous energy confronting its environment, and risking a course of action which fateful experience alone can judge.

There is here a remarkable unity of thought, but there is not here an indivisible total which the student or the critic must take or leave as such. The present writer has lately expressed, for instance, with emphasis (*International Journal of Ethics*, January, 1899), his disbelief in "the lawfulness of voluntarily adopted faith," in excess of the evidence. But his dissent from this and other developments of the general thought is no more cordial than his acceptance of the root-conception and of some of its chief branches, of which the ethical branch—the place given to moral hazard and experiment—is not the least important. Of course, too, in putting together as above what the author has dispersed in many separate writings, there is room for misconstruction, which the writer is the more obliged to note since he has been assured, though by no means convinced, that in his recent criticisms he has entirely misconceived his author's meaning.

Returning to the present address, one notes that it sums in a general formula what Mr. James has already applied to the so-called 'transubjective reference' of mental states in his essays "On the Function of Cognition" (*Mind*, Vol. X) and on "The Knowing of Things Together" (*Psych. Rev.*, Vol. II). 'There is no self-transcendency in our mental images taken by themselves.' 'The pointing of our thought to [its object] is known simply and solely as a pro-

cession of mental associates and motor consequences that follow on the thought, and that would lead harmoniously, if followed out,' to that object. 'In representative knowledge there is no special inner mystery, but only an outer chain of physical or mental intermediaries connecting thought and thing.' The formula, too, harmonizes perfectly with the nominalist view that the true meaning of an abstract or generic belief consists not in the vague or fragmentary concrete image that occupies the mind, but in the mental action, the rejection of false instances and acceptance of true ones, to which its presence, together with that of the 'abstract' term, commits the mind.

The argument of the address concerns itself only with the meaning and the clearness of conceptions. It would be interesting to know whether its author would be prepared to proceed as he has begun, and to say that, as the meaning of a conception depends upon the action it entails, so its truth depends upon the success, the utility (social or biological) of those actions. Dr. Georg Simmel has already suggested a definition of truth in terms of utility (*Archiv für systematische Philosophie*, Band I, Heft 1, pp. 34–46). Such a development would be in keeping with the observation cited above as to the verification of religious hypotheses in life. Whether or no this supplement would be to the author's mind, it would be necessary, in order to add the philosophic precision not attempted in the paper before us, to note that belief enters into a composition of causes with desire, since two sets of desires, with the same belief, may produce different courses of conduct.

Upon the respective merits of the genetic, the pragmatic, and the purely introspective modes of analysis, we cannot here enter. There is no indication that Mr. James would disparage the simple introspective mode, or wholly exclude the genetic. The capital importance of this utterance on the neglected subject of method—viewed apart from its author's other work and the subtler questions of theory it raises—lies in the appeal to philosophers, if they would see old controversies composed, and reflection bear richer fruit, to betake themselves to the psychological analysis of their terms.

DICKINSON S. MILLER.

REVIEWS OF BOOKS.

The Making of Religion. By ANDREW LANG, M.A., LL.D. St. Andrews, Honorary Fellow of Merton College, Oxford, sometime Gifford Lecturer in the University of St. Andrews. London, New York, and Bombay, Longmans, Green & Co., 1898.—pp. 380.

Mr. Lang, in his former writings, has made real contributions to the study of the history of religion. He has called attention to the dependence of the higher forms of religious rites and beliefs upon the lower and earlier forms, and has shown the advantage that this method of study has over the more fanciful methods of the etymologists. An equal importance can hardly be claimed for the results of the present work. In it a point of view is taken wholly different from that before held by the author. 'The anthropologists' take the place of 'the etymologists,' as objects of attack, and are treated no less hardly. While interesting, if not very novel, facts are brought together, and discussed with the literary grace that is found in all of Mr. Lang's writings, it is doubtful if they will be found to have compelling force in the direction in which the author would apply them. Indeed, the effect of the work is somewhat weakened when we find the author himself avowing only a half faith in the significance that he ascribes to some of the phenomena that are presented. This, of course, does not affect the importance of the phenomena themselves, which will be greater or less according to the manner in which they may be viewed by the reader. It does, however, detract something from the unity and impressiveness of the work. The positions taken by the author, and his somewhat wavering attitude towards them, may be best illustrated by one of his own statements. After certain preliminary remarks, he says: "We shall end by venturing to suggest that the savage theory of the soul may be based, at least in part, on experiences which cannot, at present, be made to fit into any purely materialistic system of the universe. We shall also bring evidence tending to prove that the idea of God, in its earliest known shape, need not logically be derived from the idea of spirit, however that idea may have been attained or evolved. The conception of God, then, need not be evolved out of reflections or dreams and 'ghosts.' If these two propositions can be defended with any success, it is obvious that the whole theory of the science of religion will need to be reconsidered" (p. 2). The first proposition rests upon a 'may be' and a 'cannot at pres-

ent,' which would seem hardly to justify the claim that the whole theory of the science of religion should be reconsidered. It may further be remarked that the view that all divinities have been derived from the idea of ghosts is, happily, by no means so widely held that the proof of the opposite would cause a revolution in the science of religion. What the author probably had in mind was that if it could be proved that the idea of a lofty creator God, preceded that of lower divinities, this reconsideration would be needed. This is the view that he actually suggests, though his attitude towards it is somewhat doubtful. If this position were really established, it would, indeed, form a revolution in the views ordinarily held by anthropologists.

The book consists of two distinct portions, which the author, in the Introduction, recognizes as such, though they are not separated in the body of the work. In the first of these, the possible sources of the belief in spirits are discussed. In the second, the priority of the recognition of the highest, or creator divinity, and the impossibility that this should have been derived from the lower beliefs, are treated together.

Under the first heading, we are taken into the world of abnormal experiences, such as those with which the Society for Psychical Research has to do. We have an interesting comparison between certain customs and beliefs found among savages in widely separated regions, and those which are at present made the object of scientific study. They are such phenomena as *clairvoyance*, or in the Zulu phrase 'opening the gates of distance,' crystal visions, hallucinations, veridical and otherwise, and demoniacal possession. The parallelism that the author presents is noteworthy. He finds in the faith that so many at the present day are beginning to place in these things a reversion to savage methods and beliefs. "This means," he writes, "that Dr. Hodgson at present, in this case (that of Mrs. Piper) accepts the hypothesis of 'possession' as understood by Maories and Fijians, Chinese and Karens" (p. 152). Dr. Hodgson would doubtless welcome this comparison, and be as much interested as Mr. Lang himself in the facts that are here brought together. These facts and the parallelism based upon them are so important in themselves that they hardly need the added interest which comes from the application that is made of them by Mr. Lang. He evidently feels that, for reasons which he does not state, the experience of dreams forms an unworthy starting point for the belief in spirits, and that, if it can be shown that a recognition of such abnormal, and, in some cases, possibly supernatural, phenomena as have been referred to, was, in part

at least, the cause of this belief, much would be gained. The reasoning loses some force from the fact, already indicated, that in regard to a part of them the author expresses no positive judgment, and also, from the fact that some of them have little direct bearing upon the question.

None of these phenomena are more important for the purpose of the book than those of demoniacal possession, as illustrated on the one side by the modern medium, and on the other by beliefs found among savage, and, indeed, among nearly all peoples. The extremely interesting work of Dr. Nevius on *Demon Possession and Allied Themes*, presents a vast number of instances of the kind as occurring among the Chinese. These are apparently well-authenticated as to what actually took place, and it may well be that modern investigation may throw some light on these phenomena. After the author has interested us in such comparisons, it is a little disappointing to have him conclude thus: "While modern civilized parallels depend on the solitary case of Mrs. Piper (for no other case has been well observed), no affirmative conclusion can be drawn from Chinese, Maori, Zulu, or Red Indian practice" (p. 158). This judicial summing up of the evidence illustrates the fairness of the author's mind, but does not give to the phenomena the importance that we were prepared to expect.

Among the phenomena described, those that seem of most importance so far as the argument of the book is concerned, are those of apparitions, especially apparitions that are co-incidental with the death of the person thus appearing. In regard to these, at least, Mr. Lang expresses his position very clearly. He says that he was not convinced by the 'census' published by the Society for Psychical Research, but speaks of himself as "fairly well persuaded of the possibility of telepathy on other grounds, and even inclined to believe that it does produce co-incidental hallucination" (pp. 134–5).

There is a very interesting chapter on Veridical Crystal Visions. In the matter of these visions, the author adduces some very striking illustrations that have come within his own personal knowledge. He associates with these similar phenomena reported as occurring among savages. He remarks in regard to them: "These phenomena are certainly of a kind to encourage the savage theory of the wandering soul. How else, thinkers would say, can the seer visit the distant place or person, and correctly describe men and scenes which in the body he never saw?" (p. 112). No evidence is given to show that these facts were actually explained in this way. The Polynesian priest looks into water "for a vision of the thief who has carried off stolen

goods. The Polynesian theory is that the god carries the spirit of the thief over the water in which it is reflected" (p. 90). So far as the belief in the independent existence of souls is concerned, this way of looking at the matter may be as important as the other; but for the sake of the general argument it is better to be exact. Against the idea that in such cases the soul was believed to leave the body, is the fact that when the body was thus deserted it sank into unconsciousness, or into a state of weakness approaching unconsciousness. In these cases of water or crystal gazing, there is no intimation that anything of the kind occurred. The savage simply looked and saw. Quite different in this respect is a case of Zulu telepathy recorded on pages 75–6. In this, the seer fell into a state of unconsciousness before making his revelation. This might naturally suggest the thought of the temporary absence of the soul.

It is a wonderfully interesting chapter in the history of the mind to which Mr. Lang thus calls attention. He introduces the discussion of it by a very striking illustration. It seems that the northern Indians called the Aurora Borealis 'Deer.' They had noticed that on a dark night the fur of a deer, if stroked, will emit sparks, and they used this fact to explain the light in the heavens. They thus anticipated modern science in associating the Aurora with electrical phenomena (p. 4). Comparing this fact with the savage notions of the soul, Mr. Lang says: "As the sparks of the deerskin indicated electricity, so the strange lights in the night of human nature may indicate faculties which science, till late and in a few instances, has laughed at, ignored, 'thrown aside as worthless.'" In the narrations contained in the book, we see the savage recognizing important facts which have only recently commanded the careful attention of the science that considers itself most advanced.

While the comparison between such abnormal phenomena as have been considered, as they exist among uncivilized and civilized peoples, is very interesting, it is not one that will seriously affect our views in regard to the history of religion. If we are convinced of their supernatural character as they are seen in our modern times, we shall better understand them as they occurred among the less developed races. Perhaps the fact that they are found among these will make them seem to some more deserving of study as they appear among ourselves. It is not easy to see, however, that all this will require any fundamental change in the generally accepted theories as to the origin of the belief in souls. The phenomena are not sufficiently unlike those of dreams to make a material difference. The fact that we may find a significance

in some of them that we do not in ordinary dreams, does not affect the point of view of the savage. The reader steeped in modernity may exclaim that the savages were not such fools or cheats as we thought them; but in other respects things will remain as they were. On the other hand, the present belief in religion is not at all dependent upon the accident of its origin; these occult forces are as open to us as they were to the savage. If at any time they were fitted to add any strength to religious belief, they are as well fitted to do this now as ever they were; and they have neither more nor less weight on account of the use or non-use of them by the savage.

In the second portion of the book, Mr. Lang brings together examples of peoples comparatively undeveloped, who have reached a high conception of God. By the word 'God' in this connection, he means "a primal, eternal Being, author of all things, the father and friend of man, the invisible, omniscient guardian of morality." These lofty divinities cannot, he argues, be spirits of the dead, for they never died. They are not taken from the facts of human chiefs or kings, for they are found among Fuegians, Bushmen, and Australians who have no kings or chiefs, and, indeed, no distinction of rank (p. 179). Such a divinity among the Zulus cannot embody the memory of some remote ancestor, for the Zulus hardly remember the names of their own grandfathers (p. 178). These exalted divinities, Mr. Lang insists in two or three passages, were not, as the anthropologists insist, the products of later development, but were recognized in advance of the lower spirits and divinities by which they are surrounded. As to the origin of these purer beliefs, he does not express an opinion. He says, however, of the people holding them: "It is as easy almost for me to believe that they 'were not left without witness,' as to believe that this God of theirs was evolved out of the maleficent ghost of a dirty, mischievous medicine man" (p. 185). The belief expressed by Mr. Lang, that among savage peoples the idea of God was prior to the notion of lower spirits and divinities, rests upon the fact that the higher divinity is much less prominent than the lower. This view is more than once expressed. He says in one place: "If, as a result of the ghost theory, the supreme Being came last in evolution, He ought to be the most fashionable object of worship, the latest developed, the most powerful, and most to be propitiated. He is the reverse" (p. 230). The notion that the later divinity is necessarily the most prominent can hardly be supported by history. This sort of reasoning would make Brahmà earlier than Vishnu and Siva. The Vedic and pre-Vedic Dyaus is, in point of years, one of the most ven-

erable deities of history. In the Vedic poems he is already spoken of with a certain tenderness as 'Dyaushpitar,' or father Dyaus. What generations of gods did he see arise and pass away during his march down the ages; yet as the classic paganism faded away in the light of Christianity, under the names Zeus and Jupiter he still stood foremost in honor as well as dignity.

Reason has as little as history to say in support of Mr. Lang's position. It seems not unreasonable to suppose that, as the developing peoples were struck by this or that prominent object, they may have put a spirit into it or evolved one out of it, and performed rites expressive of fear or trust. Still there may have remained life as a whole, and the environment as a whole, not as yet included in religious thought and feeling. Religious thought might naturally tend to expand so as to take possession of this unappropriated residuum; but the divinity thus reached, though the latest, might still remain somewhat in the background, while the earlier divinities, earlier because they satisfied needs more immediate and imperative, might continue to absorb the chief interest of men. He was evolved chiefly to meet an intellectual necessity, while the others met the practical demands of every hour. Brahmà, of whom mention has just been made, was a creator god precisely of this kind. Probably he never enjoyed more than a *succès a' estime* in the actual religious life of the Hindus; but by the thought of him the past was made to appear as divine as the present.

While Mr. Lang, in the passage quoted, and in other similar ones, assumes that the belief in God the Creator was the earliest form of religion, he insists elsewhere that there is no historical proof of this. He writes: "I have tried to show how dim is our knowledge, how weak often is our evidence, and that, finding among the lowest savages all the elements of all religions already developed in different degrees, we cannot, historically, say that one is earlier than another. This point of priority we can never absolutely settle. If we met savages with ghosts and no gods, we could not be sure but that they once possessed a god and forgot him. If we met savages with a god and no ghosts, we could not be historically certain that a higher had not obliterated a lower creed" (p. 320; cf. p. 220). We are not to regard this statement as contradicting the one before quoted. Historic certainty with the author probably means that which rests on documentary evidence, or on the testimony of eye witnesses. Still, standing as the two positions do, with no attempt at mediation, we are left, here as elsewhere, in doubt as to how much weight the author really means to give to his suggestions.

Probably *The Making of Religion* will not seriously affect anthropological theories. It is an interesting work, however, and may well call increased attention to the matters of which it treats.

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Le libre arbitre. Étude philosophique par ERNEST NAVILLE. Associè étranger de l' institut de France. Deuxième edition revue et corrigée. Bale et Genève, Georg & C^ie^; Paris, Félix Alcan, 1898.—pp. xiii, 311.

In this work, a clear and comprehensive presentation is given of the libertarian side of the controversy concerning the freedom or determination of the will. Throughout the book, the arguments in favor of freedom are marshalled in the form of concise *dicta*, followed in each case by detailed explanations. The first part is devoted to an analytic investigation of the general problem of freedom. It attempts to answer the question: Is liberty one of the data of a universal problem? The second, or synthetic part of the work, consists of an exposition of the leading metaphysical theories, and an examination of the bearing of each of these theories upon the question under discussion.

Psychical freedom the author defines as the power of choosing between alternative courses of conduct or of thinking. This power of choice is a simple, unanalyzable fact of consciousness. It alone constitutes a true cause, not indeed with respect to its existence, but with respect to its activity. As an explicit choice between alternatives, it is always accompanied by an immediate consciousness of power to choose either of the presented courses of action. In the form of voluntary attention, on the other hand, it has as its accompaniment a sensation of effort or activity. This sensation, however, does not comprise the whole mental process, inasmuch as it is always directed towards an object—is always a sensation *of* effort or activity.

The freedom of the will is presupposed even by those who deny its reality, since denial is an act that has been chosen out of many possible ones, and includes in its occurrence the exercise of attention. It is presupposed also by the feeling of moral obligation, and by the ideas of sin and virtue. Duty would be an illusion were choice not possible between right and wrong courses of conduct, and the practice of virtue would carry with it no commendation, were the mind not free either to choose or reject it. Even the feeling of restraint is possible only in so far as a feeling of possible liberty is present in the mind as its antithesis. An argument in favor of freedom is found also

in the uncertainty that attends the prevision of events in the life of an individual or of society. Particular events cannot be forecast with certainty, but tendencies only can be accurately foreseen. The fixity of social phenomena which statistics are supposed to reveal, turns out to be no fixity at all; and even were the fixity present, it is necessary to assume that in each particular instance of the operation of a given tendency men are endowed with the power of freely choosing the line of action that they follow.

The will, however, is by no means unmotived or unconditioned in the exercise of its freedom. It is conditioned by the pre-existence of irrational impulses, as well as by the prior idea of an end to be attained. It is conditioned by physiological processes, and also by habit, character, and innate tendencies. It is, in its highest form of expression, conditioned by the moral law which may prescribe courses of conduct that run counter to present impulses, to self-interest, or even to intellectual or aesthetical ideals. Voluntary action is, moreover, conditioned not only in respect to its origin, but also in respect to its effects. The will has a *directing* power, but the *execution* of its particular acts is rendered possible by means of a psycho-physical mechanism over which it has no direct control. The relativity of the will is seen also in the fact that "the past of freedom returns into the present of nature." Freedom tends to pass into a habit, and when this result has been reached the whole self, and not merely isolated acts of volition, come to possess the stamp of liberty. When it is the requirements of the moral law that are thus realized unconsciously and automatically, the highest type of freedom has been attained.

The results thus reached by an analysis of our experience are confirmed by a process of deduction from ultimate metaphysical principles. Determinism, whether in the form of Materialism or of Idealism, is unable to account satisfactorily for the facts of conscious life. No explanation of consciousness is given by interpreting it in terms of the generically different processes of the material world. Materialism fails to account also for the existence of 'potential energy,' since it is logically bound to confine itself to the *actual* properties of matter and its modes of movement. Now, the mind may be regarded as a force which, without ceasing to exist, enters into a potential state when the conditions of its manifestation are temporarily in abeyance. Idealism, in its attempt to exhibit a necessary connection between all the forms of reality, overlooks the radical difference between physical and psychical phenomena. By asserting the identity of antecedent and consequent, it neglects to take account of the principle of efficient

causality, and hence is unable to explain the changes which take place in the real world. It is guilty of an error of analysis also in confounding the deductions of intelligence, which proceed from certain data, with the establishment of these data themselves. Spiritualism alone is able to do justice to the varied facts of reality. The operations of intelligence, which idealism takes as constructive of reality, are more naturally explained, on the spiritualistic hypothesis, as modes of realization of the Eternal Spirit. The relativity of freedom is understood when it is seen that man is a created Being. The existence of liberty, of moral obligation, and of moral evil in the world follows as a necessary consequence from the fact that man has been made an *initial*, and not merely a *transmitting*, cause of events. The difficulties connected with the conception of creation and with the reconciliation of human freedom with divine prescience and pre-arrangement are no greater than those which science encounters when it deals with the primordial properties of matter. "The nature of things is certainly not a point of departure more intelligible than the will of an Infinite Spirit."

The doctrine of the freedom of the will, as M. Naville has expounded it in this work, does not appear to differ essentially from the theory of self-determination. The author has rightly rejected as untenable the theory of transcendental freedom, and that of the "freedom of indifference." The will is not something apart from the stream of conscious processes, neither is its action arbitrary or unmotived, but it always acts in inseparable connection with sensational and affective content. But if this is the case, then in every act of will the *whole self* is expressed and not merely one of its three fundamental aspects. This momentary self-expression, however, which constitutes volition, is conditioned by preceding psychical processes, and by antecedent and simultaneous physiological processes. To choose is at the same time to have an idea of the object of choice, and a feeling of satisfaction with the mental attitude of the moment; and this idea and feeling are both determined by preceding processes of a similar kind. On the other hand, mental determination is not purely external or mechanical. The mind acts according to an inner law of development, and, as a consequence, every one of its processes has characteristics which cannot be wholly accounted for by other psychical, or by physiological, changes. The truth seems to be that freedom and necessity are not contradictory, but are supplementary, conceptions. Every mental process is in one respect free, and in another respect determined. It is free to the extent that the cause of its action is to be sought

within itself. It is determined to the extent that its cause is found in changes that lie beyond its immediate range of operation, whether those changes be physical, physiological, or psychical. In other words, the mind is determined in so far as it is passive, and free in so far as it is active. Volitional processes may be regarded *par excellence* as free, because in them the mind is in a high degree active and self-conscious.

G. A. COGSWELL.

Leibniz: the Monadology and other Philosophical Writings. Translated with Introduction and Notes by ROBERT LATTA, M.A., D.Phil. (Edin.), Lecturer in Logic and Metaphysics at the University of St. Andrews. Oxford, The Clarendon Press, 1898.—pp. vii, 437.

This work is made up of four ingredients: translations of certain of Leibniz's opuscules; an historical and critical exposition of Leibniz's philosophy; copious illustrative footnotes to both the translations and the exposition, consisting mainly of translations from Leibniz himself; and nine appendixes, also for the most part consisting of translations from Leibniz, explanatory of certain points in his system. Dr. Latta's own division of his volume, however, is into two nearly equal parts. The first half (pp. 1–212) gives the critical account of Leibniz's philosophical system; the second half (pp. 213–438) comprises the translations from Leibniz; both portions of the volume being much enriched by the illustrative footnotes and the appendixes.

The Translations. It is surprising that so thorough a Leibnizian scholar as Dillmann should treat Leibniz's *Monadology* as of little importance. The rather was Erdmann right in calling it *librum Leibnicii omnium gravissimum.* From internal evidence, the little work appears to be the most complete and careful statement of his philosophical views which Leibniz has left us, and from his correspondence, and from the fact that he annotated it with references to passages in his *Théodicée*, it would appear that he expressly intended the *Monadology* as a 'compact and ordered statement,' a sort of compendium, of his system. An edition of the *Monadology* in English, accompanied with suitable illustrative and explanatory notes, has therefore long been needed. The primary object of Dr. Latta's book is, he tells us, to meet this need and make the *Monadology* clear to students. From his preface, we learn that his original intention was to publish a translation of the *Monadology* together with translations of the passages of the *Théodicée* referred to in Leibniz's annotations. On further consideration, he decided to substitute for the passages from the *Théodicée* trans-

lations of several short papers illustrative of different parts of Leibniz's system, and explanatory of its development. These additional pieces are Leibniz's preface to the *Codex Juris Gentium Diplomaticus* on 'The Notions of Right and Justice,' 1693; 'The New System of the Nature of Substances and of the Communication between them, etc.,' 1695, together with the first and third 'Explanation' of it; the essay 'On the Ultimate Origination of Things,' 1697; the 'Introduction' to the *Nouveaux Essais*, 1704; and the 'Principles of Nature and of Grace,' 1714. "The Monadology, as being the centre of the book, is printed first of the translations (although in date it is the last), while the other writings follow in chronological order. The only disadvantage of this arrangement is that it places the *Principles of Nature and of Grace*, which is most akin to the *Monadology*, farthest away from it."

The papers translated in addition to the *Monadology* have been wisely selected for the purpose which Dr. Latta had in view—that of "illustrating different parts of Leibniz's system and explaining its growth." The 'New System' gives an account of the origin in Leibniz's own mind of two of his most important conceptions—the conception of substance and the conception of pre-established harmony. The paper on the 'Notions of Right and Justice' throws considerable light on his ethical views; the 'Introduction' to the *Nouveaux Essais* is of much help for the understanding of his psychology and epistemology; while the essay on the 'Ultimate Origination of Things' sheds light upon Leibniz's conception of the principle of sufficient reason in his philosophy, and upon his optimism.

Dr. Latta's translations seem, on the whole, to be carefully and accurately executed. It should be noted, perhaps, that all of the pieces contained in his volume, with the exception of the paper on the 'Notions of Right and Justice,' have been published in English translation before, either in the *American Journal of Speculative Philosophy*, or in Mr. Alfred G. Langley's *Leibnitz's New Essays, etc.* (The Macmillan Co., New York, 1896); and that they all without exception, together with some twenty-five to thirty other of Leibniz's opuscules, have been issued in English translation in the volume *The Philosophical Works of Leibnitz* (Tuttle & Morehouse, New Haven, 1890). The only recognition by Dr. Latta of these labors of his predecessors in the somewhat difficult task of rendering Leibniz into English is found in the remark in his preface—"and there are American translations of the *Nouveaux Essais* and some of his philosophical pieces."

The Notes and Appendixes. Each of the translations is preceded by a prefatory note of an historical or analytical sort, and accompanied

(as is also the exposition) by explanatory and illustrative notes. These notes and the appendixes fill about as much space as the text which they are intended to elucidate. The value of these notes is found less in Dr. Latta's own observations, than in the fact that they bring together related or explanatory passages from other writings of Leibniz himself. Thus the translation of the preface to the *Codex Diplomaticus* is greatly enriched by copious footnotes, consisting of illustrative passages from the interesting and valuable collection of Leibniz's papers from the Hanover MSS., published by Dr. Georg Mollat under the title, *Rechtsphilosophisches aus Leibnizens ungedruckten Schriften* (Leipzig, 1885). The prefatory note to the *Monadology* contains (pp. 216–217) a very helpful analysis, or summary, and the notes and the appendixes to that paper will be found of much assistance in understanding the condensed thought of the text. An excellent analysis is also given (pp. 356–357) of the 'Introduction' to the *Nouveaux Essais*. The brief appendixes (nine in number) to the Introduction and Translations, treat of the following topics: Explanation of the Pre-established Harmony; Formation of the Idea of Space; Meaning of Cause; Leibniz's Logic; Kant on His Relation to Leibniz; Leibniz and Bayle on the Multiplicity in the Monad; Proof of the Existence of God; On the Elements of Extension; Growth of Leibniz's Theories Regarding Force and Motion.

These notes and appendixes show that Dr. Latta possesses a wide and intimate acquaintance with the philosophical writings of Leibniz. They will be found of great help to the beginner in mastering Leibniz's system, and they alone would make Dr. Latta's volume a very substantial and welcome addition to the Leibnizian literature in English.

The Introduction. The first half of Dr. Latta's volume is intended to supply the long-felt need of a complete and detailed critical account in English of Leibniz's philosophy. In the preface, attention is called to the fact that Leibniz has received from English thinkers less attention than any other of the great philosophers, while yet few philosophical systems stand so much in need of exposition as that of Leibniz. "His theories have to be extracted from seven large volumes of correspondence, criticism, magazine articles, and other discursive writings, and it is only in recent years that this material has been made fully available by the publication of Gerhardt's edition."

Dr. Latta's 'Introduction' is divided into four parts: Part I (pp. 1–20) devoted to the 'Life and Works of Leibniz;' Part II (pp. 21–73) dealing with 'The General Principles of the Philosophy of Leibniz;' Part III (pp. 74–150) giving a 'Detailed Statement of the

Philosophy of Leibniz;' and Part IV (pp. 151–199) attempting an 'Historical and Critical Estimate of the Philosophy of Leibniz.' Parts II and III together were originally presented by Dr. Latta to the University of Edinburgh as a thesis for the degree of Doctor of Philosophy.

In Part I the list of Leibniz's philosophical works given (pp. 18–20) should certainly have contained the *Discours de métaphysique*, the *Notes on Spinoza's 'Ethics,'* and a few other titles. The value of the list for the general English reader would have been enhanced by references to the English renderings, as most of the works have been translated in whole or in part. While referring to matters bibliographical, we might add our regret at finding no reference, even in the preface, to Professor Dewey's excellent exposition of the *New Essays*, and none to Kuno Fischer's volume on Leibniz.

In Part II, Dr. Latta points out that the philosophical work of Leibniz was an endeavor to reconcile the notion of substance as *continuous*, with the contrary notion of substance as consisting of indivisible elements (p. 21); for Leibniz, as for Spinoza, the problem of philosophy being primarily not a problem of knowledge, but a theory of reality. Leibniz's theory of knowledge follows from his answer to the question: 'What in reality is substance' (p. 54)? Leibniz developed his non-quantitative or dynamical conception of substance "through criticism of Cartesian and atomist views regarding material substance" (p. 27). The three chief conceptions of the metaphysic of Leibniz are found in (1) his conception of the monad, a real individual substance, the essence of which is intension, force, life, in the form of perception and appetition; (2) the principle of continuity or the identity of indiscernibles; (3) the preëstablished harmony. The attempt is made to show how these arise as the solution of Leibniz's problem in the form which its historical setting gave it. A consideration of the various classes of created monads next leads to the subject of self-consciousness in the philosophy of Leibniz, and this in turn to the logical presuppositions of the system as distinct from its specific metaphysical doctrines. These logical principles are (*a*) the Principle of Identity or Contradiction, and (*b*) the Principle of Sufficient Reason. An attempt is then made to show the way in which these logical principles fix the main lines of Leibniz philosophy, *i. e.*, to show how the main features of his metaphysics are determined by these great logical principles which underlie it.

Part III follows with a 'Detailed Statement of the Philosophy of Leibniz,' in which these general principles are developed in their application to the mathematical, physical, biological, and mental spheres,

under the headings: (A) Leibniz's Mathematics in Relation to his Philosophy; (B) Matter; (C) Organism; (D) Self-consciousness—Theory of Knowledge—Ethics. The exposition in this part is, on the whole, painstaking and able, exhibiting on the part of the author much knowledge of his subject, a critical and judicial spirit, and an evident desire to present Leibniz's system faithfully, systematically, and lucidly. In these last respects, however, we cannot but feel that Dr. Latta's achievement falls far short of his very worthy intentions. Of course, in expounding such a system as that of Leibniz, there will always be room for some differences of interpretation, but we are surprised to find any careful student of Leibniz's philosophy making declarations such as that, according to Leibniz, *entelechy* and *materia prima* are in simple substance related in a way similar to that in which the dominant monad and the phenomena (implying other monads) are related in 'compound' substances (cf. p. 110); that 'apperception' is 'the perception of eternal and necessary truths' (p. 121); that 'when we speak of positions in space, we are describing in a confused way the essential differences between monads' (cf. p. 311, n. 53). On the other hand, some points of importance with regard to Leibniz's philosophy, which are not infrequently overlooked or misunderstood, are clearly perceived and rightly stated by Dr. Latta. For example, he is careful to point out that Leibniz's preëstablished harmony is in no sense a *created*, or arbitrary, harmony, but rather a harmony or mutual compatibility in the very nature of things, anterior to their creation, and which in part was the ground of God's choice of the actual system (cf. pp. 39 ff., and note 81 to the *Monadology*). While in some points, then, Dr. Latta's interpretations may be called in question, and while his exposition fails to give as satisfactory, clear, and unitary a conception of Leibniz's system as we could wish, the exposition is, nevertheless, the fullest and best which has yet been produced in English, and one for which students of Leibniz will be grateful.

Part IV, which undertakes to give an 'Historical and Critical Estimate of the Philosophy of Leibniz' in its relation to preceding thought and in its influence upon succeeding systems, although meritorious, is a very unequal production, some parts, as, for example, the statement of the relation of Kant to Leibniz, being excellent, and others, as, for example, the criticism of Wolff, being weak.

In conclusion, we would say that, on the whole, Dr. Latta has given us a conscientious and scholarly piece of work; that his book is the best one now accessible in English through which to gain an introduction to the best thoughts of one of the world's very greatest thinkers;

and that the book is especially well adapted for use in university instruction. GEORGE MARTIN DUNCAN.

La personne humaine. Par l'Abbé C. Piat, Agrégé de philosophie, Docteur des Lettres, Professeur à l'Institut catholique de Paris. Paris, Félix Alcan. 1897.—pp. 404.

The esteem in which this work is held is clearly manifest from the fact that at a recent meeting of the Academy of Moral and Political Sciences it was awarded half the Penanrun prize. It treats of a moot question whose far-reaching conclusions are not the exclusive property of the philosopher; and the interest attaching to the subject has been intensified by the method of treatment. The author might well have taken for his maxim the words of Sir John Herschel: "The grand, and indeed only, character of truth is its capability of enduring the test of universal experience, and coming unchanged out of every possible form of fair discussion;" for he tells us (p. 35): "The true method consists, not in destroying the work of ages but in perfecting it. It is impossible for those who have gone before us to have been deceived on all points. Their researches have discovered some of the granite of truth, and it is on this that we must build. Consequently, it is my intention to show that the formerly accepted definition of personality has not been entirely obliterated by the observations and delicate experiments of contemporaneous psychology. It may still be accommodated to the facts observed without any essential alteration." This is the key to the whole book.

After contrasting the theories of substantial and of phenomenal personality, he divides the work into three books, treating respectively of Perception, Reflection, and the Idea of Responsibility. As in this division, so also in the sequence of the chapters and of their various parts, the orderly development of the subject from the simple to the complex is clearly marked. The testimony of authors of the most opposite schools is drawn up in support of his thesis with a skill that is born of long and careful study. He insists on the validity of introspection, and maintains that individual perception is nothing but the self perceiving. He takes phenomenalists to task (p. 47) for professing to hold fast to experience, whereas they start from an abstraction, the concept of phenomenon, and from this deduce their theory. The conclusion that the phenomena of consciousness are but different views of the same indivisible subject, is confirmed by man's invincible belief that he is responsible for his actions (p. 49), and by reflection on the nature of memory, the functions of which are inexplicable un-

less a permanent subject, joining the present with the past, be admitted (p. 53).

The first chapter is summed up in these words: "1. From the view-point of introspection, personality is not a coördination of conscious and sub-conscious phenomena, as Ribot contends. Its unity is not synthetic, but absolute. Doubtless, the different states constituting self have real mental relations, . . . and these different states envelop a consciousness which is immanent in them. But it appears at times to be forgotten that this consciousness is the same for all [states], and it supposes [therefore] a single subject. 2. From the view-point of introspection, our identity is neither the greater or less duration of a representative state once given; nor the persistency of consciousness through the flux of phenomena under its vision, nor the remembrance of past events, events of a time that is now noumenal for our being: consciousness and memory reveal our identity, but do not create it. 3. Identity of self consists in the duration of the same subject throughout the entire life [of the individual]. The explanation is to be sought behind representation, behind consciousness, behind memory,—in the permanence of the principle of action" (pp. 68–69).

The two chapters on the 'Data of Science' in reference to simultaneous and successive 'double personality,' are full of interest. The author differs from Professor Ladd in his interpretation of these phenomena; he argues with no little skill that they are not instances of a 'sundering of consciousness,' but rather of an 'extension of its sphere of representation.' Daily are impressions produced in us that have no immediate correlate in consciousness; they await the action of an abnormal stimulus to be called into consciousness, where they then seem like the vesture of a new personality. Moreover, much of the confusion that has attended the discussion of this question is unnecessary; for empirical psychology "ends where the understanding begins; it stops at the threshold of the abstract; it is, then, not a matter of surprise that it is not successful in interpreting the abstract" (p. 151).

The author's breadth of view is invigorating. Living forms are not absolutely invariable in kind, but possess a very great, although not an absolute, plasticity (p. 205). But "however much we multiply intermediary types, even if we one day prove incontestably a continuous gradation of living forms, to which naturalists incline more and more, this discovery will not have the looked-for result; it will but indicate a common origin; it will reveal nothing more than the fact that all have developed according to the same plan" (p. 177). This agrees with the statement of Professor Brooks in his "Lecture on Zoölogy

and the Philosophy of Evolution," recently delivered in Columbia University (See *Science*, December 23, 1898). His extended investigation into the nature of 'Animal Intelligence,' results in the conclusion that there is nothing in the brute kind even analogous to man's power of reflective thought (p. 253).

The chapter on 'Responsibility' opens with the important admission that "the determinist theory is not entirely false; it contains a substrate of truth which we must recognize" (p. 310). This principle helps to guide us in our treatment of degenerates, whose inferior state is the product, on the subjective side, of a constantly increasing abuse of liberty, and, on the objective side, of penury or opulence, of excessive labor of mind or body, or of alcoholism. Science does not "destroy the psychological foundation of responsibility; . . . but rather determines with increasing precision the limits within which responsibility varies, as also the manifold causes of its variation" (p. 364).

While the general excellence of the work cannot be denied, certain passages are open to the charge of ambiguity. Parts of the conclusion are disappointing. The denunciation, if one may use so strong a term, of experimental psychology (pp. 397–398) is far too severe and too *general*; for, even according to the author's own testimony, it has given us definiteness of detail, and has helped us to acquire greater precision (pp. 323–324). Again, while in one sense it is true that there is a mental science that does not come from physics, and there is a fundamental psychology that does not come from physiology (p. 399), it is also true that this fundamental psychology gets its principles by induction from the experience of the senses; and such is the teaching of Scholastic Philosophy. It is then eminently reasonable to test the results of this mental science, this fundamental psychology, by the assumed results of scientific research. The author's real mind, however, is better expressed in these words with which we are in entire accord: "The problem is not to destroy the past; it is to add to it the present in the interest of the future; it is to make a higher kind of synthesis, to give precision to the data of consciousness, to correct them if necessary, but not to suppress them. In the experimental sciences, the 'method of correction by successive approximations' is employed. Our primary knowledge of bodies is only approximate; later on it is perfected by the exact measurements of science. The microscope, for instance, does not alter the knowledge of bodies which we get through the sight, but it discloses their details with greater clearness. This is the method to be followed in philosophy" (p. 401).

BROTHER CHRYSOSTOM.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Int. J. E.* = *International Journal of Ethics*; *Phil. Stud.* = *Philosophische Studien*; *Rev. Ph.* = *Revue Philosophique*; *R. I. d. Fil.* = *Rivista Italiana di Filosofia*; *V. f. w. Ph.* = *Vierteljahrschrift für wissenschaftliche Philosophie*; *Z. f. Ph.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Ps. u. Phys. d. Sinn.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*; *Phil. Jahr.* = *Philosophisches Jahrbuch*; *Rev. de Mtt.* = *Revue de Métaphysique et de Morale*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*.—Other titles are self-explanatory.]

LOGICAL AND METAPHYSICAL.

The Dialectic Method. E. B. McGILVARY. Mind, No. 25, pp. 55–70; No. 26, pp. 233–242; No. 27, pp. 388–403.

These articles are a criticism of McTaggart's *Studies in the Hegelian Dialectic*. McTaggart makes two charges against Hegel's method: (1) the *Logic* begins with external reflection, and closes with internal reflection; (2) the negative is not essential, and gradually disappears. The author takes up each of these charges in turn. I. In the doctrine of being, McTaggart says each category is permanent and fixed, and can only be compared with its antithesis by means of external reflection, whereas in 'essence' each category refers beyond itself to its other, and in the 'notion' the transition *is* the category. On the basis of these facts, McTaggart maintains that the method of the *Logic* changes. But McGilvary says: "The primary purpose of the *Logic* is to show how even the most abstract and seemingly independent and inorganic category contains within itself the life of the whole system of all-inclusive thought." The categories are organically related. For an abstract logic, however, they are contradictory, and dialectic is a reconciliation of contradictions through external reflection. But the truth is that "logic takes what appears to be contradictory, and does what appears to be a reconciliation of them; but succeeds in so doing, merely because they are not *such* contradictions as cannot be thought together in our thought." When the writer has established the real purpose of the *Logic*, he comes to a direct criticism of McTaggart. He examines the first triad of the dialectic movement, and claims that, if inner reflection is necessary there, *a fortiori* it will be found everywhere else in the movement. McTaggart affirms that there is no inner reflection or self-development by which 'being' can pass through 'naught' into 'becoming,' and clinches the argument with the following dilemma: If being is mediated, then it is not the first category; if it is not mediated, it is an abstract identity and can contain no principle of development. In opposition, McGilvary holds

that this is only an apparent dilemma, and that it rests on a misunderstanding, due somewhat to Hegel's methodological treatment. It is true that Hegel compares the categories 'being' and 'naught' by external reflection, and thus finds them identical. But Hegel is conscious of his procedure, and does not put it forward as dialectic. He uses external reflection in dealing with these two concepts, because "he is showing to ordinary consciousness the contradiction into which it falls when it uses being and naught as it is constantly using them." When, indeed, this contradiction is shown, he goes on to express the truth with regard to these categories. Hegel really begins with becoming and not with being. He seems to begin with being, but he does so only to show that he cannot begin with it. Becoming is the lowest category we can think, and it is a movement of self-development, in which its moments, being and naught, though distinct, exist only in the movement and in their organic relation to each other. Hence McTaggart's dilemma is solved, and inner reflection is seen to be the method of the first triad. Consequently, Hegel's method is uniform. II. The second point of McTaggart's criticism cannot be maintained. If negation is what McTaggart means by it, then it never enters into dialectic. There is not first a positive, then a negative antithesis contradictory of the thesis; neither is dialectic a movement "from one extreme to another extreme equally one sided." This form of the negative appears nowhere. But instead of thesis and antithesis in this abstract sense, the writer maintains that the antithesis is not a bare negation, but a "synthetic antithesis" which is the truth of the thesis. This he finds to be the case with the earlier categories of being, as well as with the categories of essence and the notion. Everywhere negation has the same enriching synthetic function, and does not disappear in the notion, for the same movement is found in the development from the concept to judgment and syllogism, as is present in the first triad rightly understood. E. P. ROBINS.

La méthode déductive comme instrument de recherche. G. VAILATI. Rev. de Mét., VI, 6, pp. 667–703.

In this article are discussed certain considerations relative to the deductive method, suggested to the writer in the course of his researches into the history of mechanics. The precise nature and importance of the distinction between the inductive and deductive methods is first brought out by means of a survey of the different forms under which each has been conceived and formulated. This done, the writer devotes himself to the consideration of the deductive method. He discusses the service rendered by it in the history of science, and the diverse opinions advanced as to its place and value as an instrument of research and as a means of demonstration. He proceeds to note the marked contrast between its triumphs and conquests in certain fields of investigation, as, for example, in mathematics and certain branches of physics, and its humiliating failures in other fields of research. The causes of this contrast are analyzed, with a view to ascertaining in what

measure the failures are due to some incapacity inherent in the method, and in what measure they are traceable to its premature or unskillful application, and to the insufficient elaboration or too hasty choice of the axioms and hypotheses which must form its starting-point. Finally, the writer sets forth his reasons for maintaining that the deductive method tends ever to enlarge its sphere of action and to increase in fruitfulness with the increase in the number and precision of the departments of human knowledge. In conclusion, he indicates the reasons why such an extension of deduction is not only useful and desirable, but may be included among the most important of the ideal ends of scientific research.

VIDA F. MOORE.

Seele und Leib. JULIUS BERGMANN. Ar. f. sys. Ph., IV, 4, pp. 401–437.

This article is preparatory to one or more others which are to follow. It consists of a critical-historical account of certain current theories regarding the universal nature of mind, on the one hand, and of matter, on the other. Mind is that which possesses the attribute of consciousness, and my mind, myself, and my 'I' are, therefore, one and the same thing. For this reason we cannot, as Aristotle has done, apply the term mind to the vital and formative principles in plants and animals, for we have no evidence that this principle is conscious. But mind is not only conscious, it is also conscious that it is conscious. In this way each state of consciousness has two kinds of content. *The known* and *the knowing process.* We cannot, therefore, with Hume, the Empiricists, and the modern psychologists, define mind as an aggregate of conscious states. For how could an aggregate become conscious of itself as an aggregate? Two things are manifestly overlooked in such a definition, viz., the knowing processes and the unifying principle, the capital 'I.' This Fichte has made clear for us. Nor is the *Cogito-ergo-sum* of Descartes any more fortunate. For this philosopher makes the fatal mistake of supposing that mind or 'I' can exist as non-conscious substance apart from its essential attribute of consciousness. Equally futile and erroneous, and for the same reason, is the Kantian notion of a self out of time, which yet unifies experiences in time. For how could that which is itself *out* of time form the nexus between disjointed experiences *in* time? And yet is there not an element of truth in all these theories? If so, mind possesses three attributes: It is conscious of objects; it is conscious of its own knowing processes; it is conscious of itself as unity. These three are one and inseparable. They constitute mind organic. Turning to the theories of matter, we find Locke maintaining that the primary qualities alone really belong to bodies. But this is ultimately to resolve body into the space which it occupies, and makes the laws of motion meaningless. For part of space moving through space is not an adequate definition of moving body. Moreover, we observe that, when bodies impinge upon one another, they rebound from one another. But one part of space cannot rebound from another. A body, therefore, must

possess some attribute by which it acts upon other bodies and imparts its motion to them. By such reasoning, the physicist conceives of body as that which possesses the attributes of extension, mass, movability, and inertia, and chemist and physiologist follow suit. These four attributes are all apparently concealed from human knowledge, and yet human knowledge is supposed to necessarily depend upon them, if not to be actually composed of them.

IRA MACKAY.

Aspects of Personality. FREDERIC GILL. New World, June, 1898, pp. 229–248.

The subject of Personality is treated by the writer under five heads: Place of Personality in the Universe; Personality in History; Two Elements —the common and the unique; Personality in the Deity; and the Gospel of Personalism. He defends the rights of personality against science, philosophy, and theology, which in some forms seek to reduce it to a mere result of heredity and environment. The very uniqueness of personality is responsible for the great results which it has accomplished in the universe. A true idea of personality leads us to the best possible conception of God. Personality is superior to all other ideals, and is the highest, worthiest, richest, and most inclusive reality known to us.

HARRY L. TAYLOR.

A New Form of Theism. JOHN E. RUSSELL. New World, June, 1898, pp. 289–300.

Under the above title, the writer discusses Professor Royce's recent publications on philosophical theism. The argument by which Professor Royce reaches his result is outlined, and the criticism is made that he has proved too much; that, while he has proved the existence of a Being corresponding to his conception of God, he has disproved the independent existence of other beings. Attention is called to the fact that this conception of God robs religious experiences of all meaning, and makes God responsible for moral evil. However, in conclusion, he declares that this is not so serious as it appears, for moral and religious experiences have the same significance, whether the subject or bearer of these experiences is thought of, metaphysically as one or as many.

HARRY L. TAYLOR.

PSYCHOLOGICAL.

Concerning the Significance of the Intensity of Light in Visual Estimations of Depth. M. L. ASHLEY. Studies from the Psychological Laboratory of the University of Chicago. Psy. Rev., V, 6, pp. 595–615.

The author tested both monocular and binocular vision with reference to the effect of light intensity upon the estimation of depth. In the monocu-

lar tests, the subject looked through a tube at a sheet of white paper hung upon a movable standard, behind which was placed a Welsbach lamp. The intensity of the light which this lamp shed upon the translucent paper was measured and regulated by an ingenious contrivance which controlled the gas supply. It was found that, starting at a degree of light-intensity just sufficient to enable the paper to be fairly seen, the ratio of increase must be about two (*i. e.*, the intensity must increase to about twice that of the point of reference) before the object can be judged 'nearer.' If the light is increased, there will be a judgment of 'farther' given when it has reached about half its former intensity. The binocular tests were made in several different ways. (1) An apparatus was employed similar to that used for the monocular tests, except that the tube was discarded and the observer looked through horizontal slits on opposite sides of the box, using both eyes instead of one as in the first test. The discrimination in this case was found to be finer than in monocular vision. (2) The experiment was varied by placing the lamp beside the box, and replacing the sheet of paper by an upright stick. (3a) The lamp was placed within a pasteboard box in the side of which a slit was cut and covered with translucent paper, in such a way that it bulged slightly forward. The position of the observer was as in the second case. In this test, the subjects discriminated in general between changes in brightness, and what appeared to be changes in distances. (3b) In this case, two sources of light were used giving a variety of results which differed too widely to be conclusive. The author's general conclusions are as follows: (1) That in the binocular experiments something very much like Weber's law is found in the relation of increase of light to apparent decrease in the distance of the object. (2) Both binocular and monocular tests show that intensity of light is of marked importance in the estimation of depth.

WILLIAM CHANDLER BAGLEY.

A Statistical Study of Belief. FRANK BERTODY SUMNER. Psy. Rev., V, 6, pp. 616–631.

A syllabus of twenty-five questions was prepared, and the subjects of the tests were asked to arrange these questions in the order in which they could answer them—either positively or negatively—with the greatest degree of conviction. A later syllabus was prepared in which the questions were changed to propositions, and the number was reduced from twenty-five to five. The following conclusions are based upon one hundred sets of answers to the former list, and one hundred and eighty-seven sets of answers to the latter list: (1) Two-thirds of the subjects (in the first experiment) were fairly well satisfied with the order they selected. (2) A comparison of the average arrangement for men and women reveals certain differences characteristic of the two sexes. (3) Even more characteristic differences are found in comparing the typical arrangement made by the trained psychologists with the typical arrangement made by those who

had had no psychological training, the former approaching more closely to a standard order of arrangement than the latter, implying that a great deal of recorded difference is due to defective introspection.

WILLIAM CHANDLER BAGLEY.

Studien über die Aufmerksamkeit. SANTE DE SANCTIS. Z. f. Ps. u. Phys. d. Sinn., XVII, 3 u. 4, pp. 205–215.

In this article, the writer gives a summarized statement of the results obtained in each of a number of investigations on the nature of attention. His general conclusion is that the distinction between the concentration and distribution of attention is to be maintained, especially in psychopathology, and that in psychogenesis the power of distributing the attention has a greater significance than the power of fixation. The significance of an act of attention does not depend exclusively upon conscious selection, for this is only an attribute of attention, not attention itself.

BOYD BODE.

The Institutional Activities of American Children. H. D. SHELDON. Am. J. Ps., IX, 4, pp. 425–448.

By a series of school compositions, an attempt was made to estimate the relative value of social clubs or societies among children. The following groups were distinguished: 'Secret,' 'Predatory,' 'Social,' 'Industrial,' 'Philanthropic,' 'Literary,' 'Artistic,' and 'Athletic.' Important sex differences are brought out in their examination. The girls outnumber the boys in all the societies except the predatory and athletic, in which the boys greatly outnumber the girls. The second part of the article deals with the periods of imitation and inventiveness during childhood, and gives their characteristic activities.

MARION HAMILTON CARTER.

Growth of Children in Height and Weight. FREDERIC BURK. Am. J. Ps., IX, 3, pp. 253–327.

This article enters into a comparative review and examination of the studies which have been made upon growth in height and weight, and considers the influence which size and various other physical elements possess as conditioning factors of mental development. The data which have been collected by investigators in this field are presented in elaborate tables and charts.

ALBERT LEFEVRE.

Sur la théorie physiologique de l'association. EDMOND GOBLOT. Rev. Ph., XXIII, 11, pp. 487–503.

The customary distinction between experiment and observation has been that phenomena for the former are provoked, while phenomena for the latter come spontaneously; but in the experimental method the essential

thing is hypothesis, or experimental idea. The characteristic of an experiment is observation preceded by reason, a logical process. These processes must be brought to the point of just two alternatives, where the question under investigation could be answered by *yes* or *no*. If the hypothesis be true, certain phenomena will be observed; if false, they will not be observed. Hence, a science becomes experimental, when it is so far advanced that it is possible to make hypotheses concerning it. After the hypothesis is made, facts concerning it should be collected, exact experiments made, contrary theories opposed to it, until finally but one alternative remains. It is only then that one may discover from facts, either spontaneous or provoked, the crucial test which permits of forming a law—nay which compels such affirmation. This thought suggested this contribution to the theory of association. The occasion was furnished by a recent article by M. Durkheim ("Representations individuelle et representations collectives," *Rev. de Mét.* Mai, 1898), who rejected the commonly accepted doctrine of the preservation of knowledge which is defended in this article. Most psychologists to-day admit that this retention is a capacity of the cerebral cortex. The psychological fact which ceases to be cognized ceases to be; that which remains is purely an organic modification. Ideas once mastered are not always conscious, or unconscious; there are not present certain ideas, but the capacity to have ideas; and this capacity is an ability acquired by the cortical substance. All psychical activity corresponds to a certain cerebral activity. A thing once learned may be said mechanically, one word recalling another, but with no thought even of the words, or the words may be thought of without their meaning; or the sense of the words may be comprehended. In the second and third cases, the psychological facts are unfolded in the mind at the same time that a series of organic processes are taking place in the brain. A second confusion to be avoided is that of the terms 'memory' and 'association.' Association calls up previous states; hence there is no memory without association; but all recall of a previous state is not a memory, since memory is the faculty of thinking of the past as such. Now recognition is a judgment of anteriority, just as external perception characterizes judgments of exteriority, and internal perception characterizes judgments of interiority. There is a judgment of anteriority in every thing not new to us. Recognition or remembrance may be very vague; but memory is clear, and hence it implies psychical activity. Association, on the other hand, follows physiological laws. There is nothing in the mind which is purely automatic, for only that appears in mind which cannot accomplish itself without it. The cerebral mechanism is not a mechanism to think, but a mechanism for the use of that which thinks. The mind knows by judging. Attribution to the 'me,' or to the 'not-me,' to the present, or to the past, are all judgments. The affective life precedes the intellectual. Sensation is the material which the mind works with to transform it into perception. There may be sensations which pass immediately into perception, but there are others which do not.

Hence, we may note the effect of a sensation, and through this effect be led to look for the cause. In order to have a preception, it is necessary to look for it; hence it is an intellectual operation. It is probable that all logical operations of thoughts correspond to some function of the cerebral cortex, but upon this point we are not in a position to form any hypothesis. Another of M. Durkheim's objections is that the physiological theory of association does not take account of resemblance. But according to the theory of contiguity there is a connection. A state of the brain tends to call up a like state. But there must be at least one point of likeness between the two states—it may be a mere word. Hence, this also tends to help prove the physiological theory. Durkheim has disproved it neither from an individual nor a social point of view.

FLORENCE MACLEAN WINGER.

ETHICAL.

The Will to Believe and the Duty to Doubt. DICKINSON S. MILLER. Int. J. E., IX, 2, pp. 169–195.

Although faith and doubt have long been thought to have especial reference to the will, direct appeals to "deliberate and courageous volition" seem to have come in chiefly within the century. They express the spirit of the Revolution and of Romanticism, which has more or less directly influenced various fields of knowledge. Professor James, who is the very romanticist in psychology, gives us the philosophy of a psychologist. His teaching is not objective cosmical construction; it is medicine for souls. The question arises, whether we are to bring ourselves by use of will into a believing state of mind, or merely to act as if we believed. It seems that by James these two alternatives are intermingled and not distinguished. Although evidence is lacking, we should will to believe, but without ever allowing the will wholly to take effect. Suspense is not entirely removed; the will is apparently only a will to hope. The position implies that, because we can ultimately prove nothing, we can believe what we choose. It does not discriminate between beliefs found and beliefs made. Reason itself rests on certain beliefs; its function is only to bring our minor and dependent beliefs into harmony with those which are fundamental and independent. The latter we find already existing in the mind; they denote things that are simply real to us, whereas a created belief arises from the desire to make something real. Belief is not in essence a matter of will. James places cravings and divinings on the same level. To him it is essentially the same mode of consciousness that appears in both will and belief. He accepts the view that mere presentation or imagination and judgment or belief are two irreducibly different and unanalyzable modes of consciousness. However, the difference between these modes is in the behavior of their respective contents. Although the intellect functions only for the sake of proper reactions upon the environment, it is an error to infer

that in taking to ourselves a philosophy we have only to consult directly for its effect upon action. The reflective faculty gives us a copy or representative of the environment, and if we tamper with that representative we tamper with our sole clue to action. BOYD BODE.

The Idea of Progress. J. S. MACKENZIE. Int. J. E., IX, 2, pp. 195–213.

We sometimes tend to think of progress as a law of the universe. It is difficult to doubt that in almost every aspect of human life there has been a marked development. Yet on closer investigation certain doubts arise. Can our age be compared in intellectual force or artistic sense with the age of Pericles, in faith and wholeheartedness with the best ages of the mediæval period? Are we gaining in comfort and happiness? And if so, will our material welfare last? The doubts as to the reality of progress cut at the very roots of human life. Charges such as are made by Carlyle, Ruskin, and Tolstoi are not wholly met by appealing to empirical facts. Progress must include the development of the individual and the improvement of mental and social conditions. It may be urged (1) that the improvement of material conditions is in the end incompatible with the development of individual life; (2) that there is an ultimate conflict between the good of the individual and the good of society. As to the first consideration, the narrowing influence due to the work of bringing nature under control is not likely to continue. The second difficulty has recently found expression in two different ways. Mr. Kidd maintains that altruism is essential to society, but that an ultra-rational sanction, such as religion gives, is necessary to justify the demands of altruism to the individual. According to Nietzsche, our great evil is excessive altruism, which indicates the inability to assert one's self. Both commit the error of supposing that the individual life can find its realization and happiness in itself, apart from that of the race. We are likely to have just as much progress as we really try to have, and just of the kind that we really try to have.
BOYD BODE.

Psychologische und erkenntnistheoretische Begründung der Ethik. OTTO STOCK. Z. f. Ph., III, 2, pp. 190–205.

The author of this article contends that the method of ethical investigation must be that of epistemology rather than that of psychology. Neither psychological, historical, nor sociological investigations can serve to establish the universal and necessary laws which ethics demands. The problem regarding the nature of morality cannot be answered upon purely psychological grounds. The object of ethics, however, is not merely the abstract notion of duty, or of the good, but the concrete judgments of value which are passed upon definite acts of will. Ethics, as a science, has to discover and exhibit the necessary and universal laws which govern the decisions of the will. Notwithstanding the current rejection of the Kantian ethics, the

problem as to how we are to obtain universal and necessary practical laws remains the problem for ethics. Kant, however, doubtless failed in his solution of the problem, for he abstracts altogether from the content of acts of will, and tells us only *how*, not *what* we should will. The concept of the good, however, rests upon the notion of the pleasure producing. It is not that which will promote the private pleasure of this or that individual, nor even what will promote the greatest happiness of the greatest number, which is to be regarded as good; but, since it is to be the universally valid moral end, it must be such as to excite pleasure on the part of every individual who feels and judges in a normal fashion. Just as epistemology has to separate what is merely individual from what belongs necessarily to consciousness as such, so ethics has to distinguish the purely individual ends from the absolute and universal end which is involved in the very nature of consciousness. The norm is thus found within consciousness and the autonomy of morality preserved.

J. E. C.

The Future of Economic Theory. JOHN B. CLARK. Quar. J. Economics, XIII, 1, pp. 1–14.

Some persons think that economics has nearly reached the limit of its development. It is true that the problem of distribution is not yet solved, but it seems likely that some one of the solutions of that problem that have been advanced in recent years will prove acceptable. It by no means follows, however, that the science will then have finished its work. Hitherto, economists have busied themselves almost entirely with static problems, and the normal, or natural, value which they speak of is a static value; but the greater problems of the future concern dynamic values and dynamic wages and interest. The common division of economics into parts, treating respectively of production, exchange, distribution, and consumption, is incorrect, because the parts are not naturally exclusive, exchange and distribution being steps in the process of production. The true division is based on the fact that some economic laws would prevail, if each man lived in a world of his own apart from other men, while others, those of exchange and distribution especially, are peculiar to social life. The first department of the science, therefore, is concerned with the first class of laws and the phenomena to which they relate, while the facts of social economics furnish material for two other departments. One of these, which deals with the economic facts and forces of a static condition of society, may be called social economic statics; the other, which aims to set forth the conditions of change and progress, is social economic dynamics. The static forces, however, persist in the dynamic state, and are even the dominant factors there, but another set of forces acts with them, and real values and wages are the resultant of the two kinds of force. When these two kinds of force and their mode of operation are understood, our economic theory will be complete, but only then. The method of study must be de-

ductive, and the field of investigation thus opened out will prove indefinitely fruitful. By cultivating it faithfully, economists can fully interpret the economic life of society, and satisfy practical minds.

JAMES B. PETERSON.

HISTORICAL.

The Æsthetical Factors in Kant's Theory of Knowledge. ANNA ALICE CUTLER. Kant-Studien, II, 4, pp. 419–439.

This article is a *résumé* of a dissertation presented at Yale University for the doctorate. In defining what is meant by 'Æsthetical factors,' the writer states that "we shall term æsthetical any influence exerted upon thought by imagination playing for its own sake. . . . If, therefore, we find Kant's thought swerved from truthfulness to experience by considerations of symmetry of the thought-structure, or effectiveness of exposition, or warped from consistency by rating certain elements beyond their rightful critical value, we shall deem it evidence of æsthetical elements." It is possible here to mention only a few of the many illustrations of this tendency which the writer finds in Kant's system. From certain passages in the precritical writings, in which Kant speaks of the noble simplicity of the true form of science, of the necessity, order, and unity of space, and of the dignity of metaphysics, it is concluded "that certain aspects of science, mathematics, and metapyhsics appealed to Kant for their beauty as well as for their scientific value." Again, it is maintained that the statement that the understanding cannot intuit is not proved logically or psychologically, but is a dramatic antithesis to the proposition that the senses cannot think. Another question raised is, whether reason's (regulative) function in cognition is not the satisfaction of æsthetical, rather than of speculative, demands. The same seems to be true of Kant's conceptions of 'universality,' 'necessity,' and 'purity.' Again, Kant's well-known mediating tendency shows a dramatic instinct which may fairly be called æsthetical. And finally "the very conception of a Critique of Pure Reason as a complete system is an æsthetical conception; which satisfies Kant's metaphysical *penchant* for an absolute and infinite whole, and furnishes an example of the *comprehensio æsthetica*, by regarding as given in the *Critique* that whose essence is an ideal to be indefinitely pursued, yet never attained." The conclusion, however, is that it is impossible to have knowledge wholly free from the influence of æsthetical factors. The demand for a knowledge free from such elements, is a demand for a knowledge lacking in fullness of significance as knowledge. The only danger to the integrity of knowledge is in their unrecognized presence. The new noetics must outgrow asceticism, and need not fear to let the whole soul go to meet reality.

J. E. C.

Origen's Theory of Knowledge. HENRY H. DAVIES. Am. J. of Theology, II, 4.

Origen held that knowledge is always knowledge of the good, that knowledge and virtue are one. He taught the doctrine of heredity, that one man has more virtue than another because his ancestors have been men of worth. Yet he is by no means a materialist, but held that body can neither think nor know. There are three kinds of knowledge: perception by the senses, knowledge of the soul and its destiny, and knowledge of the perfect. There is a divine sense (*αἰσθησις θεία*), which is immediately cognizant of a world of reality unknown to the bodily senses. But the Scriptures are the ultimate criterion of certainty, because they are the highest revelation of reason; yet faith and reason are never opposed. Every genuine act of knowledge is a moral judgment; activity of will is the heart of cognition. All knowledge involves the idea of an end; faith, the active principle whereby truth is apprehended, knows the end from the beginning; the end of cognition is the good, and the good and God are one. The ideal of knowledge, "the vision of all in God," can be attained only as the outcome of a conflict with sense and the elimination of error and sin by free will. Origen taught both the preëxistence and immortality of the soul, maintaining that the inextinguishable desire for knowledge is an index of the permanence of the thinking substance, and that, as the virtues are incorruptible and immortal, the human soul should be incorruptible and immortal too. Origen's theory of knowledge is an eclecticism containing elements derived from various sources. While he accepted Christianity with undoubting faith, his philosophical argument for the unity and spirituality of God is taken from Platonism; his theory of a divine sense from Gnosticism; and other parts of his system show the influence of Stoicism, of Philo, and of Jewish Hellenism. His teachings show a combination of subtle insight and sublime moral and spiritual conviction, but are lacking in clear perception of the order and relation of value in the topics discussed. They are interesting as an attempt to combine the doctrines of philosophy with those of Christianity.

JAMES B. PETERSON.

Kant's Theory of Education. J. LEWIS MCINTYRE. Educational Rev., XVI, 4, pp. 313–327.

Kant, in his *Lectures on Education*, first published in 1803, distinguished between natural and moral education, laying the chief stress on the latter. The first stage in education is that of discipline; the child must be controlled at first by external restraint, in order that he may learn to control himself, and guide his own acts in harmony with those of others. Kant belonged to the hardening school of educators, and would have no petting or caressing, but, on the other hand, no tyranny, no refusals without reason, and no shaming of a child before other persons. The second part of education is the cultivation of the mental powers. Some things, such as strength, skill, sureness of foot and eye, may be learned in play, but the principal means of learning is work. It is work that has made man's prog-

ress possible, and if the child is taught in school to work he will afterwards know the reason for it. The lower faculties should be trained solely with reference to the higher, knowledge and practice should go together, and the child should learn to express the knowledge he acquires. The Socratic method of educing knowledge from within is better than that of driving it in from without. Practical education aims at producing skill in dealing with things, tact in dealing with men, and morality in individual character. Character is to be cultivated both by training and example. The problem of moral education is to give moral laws power over life, and this may best be done by examples of pure disinterested virtue. Kant holds that those acts only are good which spring from the conception of moral law and of the obligation it carries with it. Consciousness of duty done brings self-respect, and the fear of finding oneself contemptible in one's own eyes is the best and even the only safeguard against ignoble and corrupting motives. But Kant taught the freedom of the will. And is that doctrine consistent with his theory of moral education? If the will is not determined by motives, what is the use of trying to influence the child by motives, examples, and ideals? Most educators who have discussed Kant's views on this point have rejected his doctrine of freedom as leaving no room for moral education. Mr. McIntyre thinks, however, that Kant's doctrine of the will is true and not inconsistent with his other doctrine of influencing the child by ideals and examples. The will chooses in perfect freedom, but the ideals between which it chooses come from without, and in presenting these education has full play.

J. B. PETERSON.

Qu'est-ce que la philosophie scolastique? DE WULF. Rev. Néo-Sc., XV, 3, pp. 282–296.

In a prior paper, of which this is a continuation, certain extrinsic definitions of scholastic philosophy were discussed. This article examines a group of *intrinsic* definitions, which are found to be no less incomplete and defective: (1) That definition which regards the scholastic doctrine as a mere recast of Aristotelianism. Against this view, it has been conclusively proved that the scholastics corrected and completed Aristotle. The theodicy, the theory of efficient causes, of personal immortality, etc., are all true conquests of individual genius. Talamo has collected most of these in his work, *L'Aristotelience de la scholastique*. Moreover, traces of Platonism, of Pythagoreanism, of Stoicism, show that the scholastic philosophy drew from all sources, and took the form of an original and independent eclecticism. (2) That scholasticism reduces to a barren dispute concerning universals. The problem of universals widened out until it included the chief problems of metaphysics, of physics, of psychology, and of theodicy. Scholasticism dealt with essentially the same problems which have been the subject-matter of philosophy in every age. (3) Another definition of scholastic philosophy finds its chief characteristic in its subordination to

theology. That this subordination has been greatly exaggerated is shown by two facts: (*a*) The distinction between theological science and philosophical science, a distinction of object, principles, and method. (*b*) The material, but not the formal subordination of philosophy to theology. All intrinsic definitions are false or incomplete that fail so to characterize the scholastic philosophy as to reveal its essential doctrine and spirit. With the accomplishment of this negative result, the writer declares his present purpose to be fulfilled. He believes, however, that a body of doctrine, the 'scholastic synthesis,'—stands as the achievement of many centuries, built up by the labors of many men. The positive doctrine of scholastic philosophy he purposes to discuss in a future paper.

VIDA F. MOORE.

Die Behandlung des Freiheitsproblems bei John Locke. MESSER. Ar. f. G. d. Ph., XI, i, iii, and iv, pp. 133–149, 404–432, 465–490.

Locke gave special attention to the question of the freedom of the will as is shown by the detailed exposition of the problem in Bk. II ch. 21 of his *Essay*, and by the fact, as he himself says, that in the second edition considerable changes had been made only in this chapter. We are further told that even in the sixth edition, most of the additions concern this chap ter. Locke accepted certain ethico-religious doctrines which influenced his treatment of the question of the freedom of the will, *e. g.*, the belief in the existence of a personal God and a day of judgment. In a letter to Molyneux, Locke says: "God having revealed that there shall be a day of judgment, I think that foundation enough to conclude men are free enough to be made answerable for their actions and so receive according to what they have done." There are two antagonistic tendencies observable in the ethics of Locke: a rationalistic and an empiristic. Owing to this fact, it is not always possible to bring his views into harmony. Without a law of God and the sanction proceeding therefrom, morality is not thinkable. This law must be known to men or readily discoverable by them without revelation, else God cannot with justice punish them. The ultimate moral law, as with the mediæval nominalists, is the command of God. Reason therefore, does not furnish the moral standard, as the realists held. The only springs of human action are feelings of pleasure and pain, and the *summum bonum* is happiness. His ethics is eudæmonistic. God, however, has so made things that pain results from some and pleasure from others. The moral law is something foreign and heteronomous to man. Locke maintains, however, that our moral obligations, *e. g.*, duties of children to parents, are deducible from reason. This rationalistic position is in contradiction with his nominalistic standpoint above mentioned. Locke distinguishes two kinds of activity, (1) Thought, (2) Motion. Control over both of these activities is ascribed to the will. A person has the power of beginning or stopping either of these forms of activity, *i. e.*, either the direction of thought or the direction of motion in the corporeal world. He frequently employs

the expressions 'power of preferring' or 'power to choose,' as synonomous with 'will,' and he employs 'preference' in the same sense as volition. He defines freedom as "a power in any agent to do or forbear any particular action, according to the determination or thought of the mind, whereby either of them is preferred to the other" (*Essay* II, 21, § 8). Freedom presupposes thinking and willing and the absence of internal or external hindrances to our thought or motion. Freedom, properly speaking, belongs only to the individual man and not to the will. The will is a 'power,' and freedom is a 'power,' and therefore the one is not an attribute of the other, but both are attributes of some being. A being is free, when it can do what it wills. In reply to the question, What determines the will? Locke says: the motive for continuing in the same state or action is satisfaction in it; the motive to change is always some uneasiness. "Uneasiness determines the will." Experience shows that, when one is in a condition free from uneasiness, one's willing and acting is directed towards remaining in this condition. With uneasiness is always given a desire. To the question, What is the object of desire? Locke replies: Happiness. Everything which produces pleasure is a good; everything which produces pain is an evil. One can therefore say that the object of desire is good. Freedom (which is falsely called 'freedom of the will') is the power to act or pursue one's desire in accordance with one's own deliberation. In being determined in accordance with one's own judgment, there is no diminution of liberty. "Every man is put under necessity by his constitution, as an intelligent being, to be determined in willing by his own thought and judgment what is best for him to do" (*Essay* II, 21, § 48). By this means, the passions and inclinations of the soul can be moderated and directed towards the true good. Experience proves that, in this sense, it is in our power to pursue our happiness and perform our duty. To ascribe freedom to the will, which is merely a blind power, would be to make man an idiot in his moral conduct. The determination of the will by the understanding does not lessen a man's freedom, but increases it by making it enlightened. Further, to refer indifference or freedom to the will implies that will is an independently acting faculty. In reality, both understanding and will are mere different forms of the soul's activity or "several modes of thinking." Man employs one or the other power for action as is necessary, but one power does not employ the other, so that directly the will does not control the understanding or the understanding, the will. Locke here breaks, to a certain extent, with the intellectualistic psychology of his predecessors and contemporaries, and maintains that ideas do not directly, but only through the mediation of feeling, operate on the will. It is, however, by the understanding that we regulate our desires and feelings to correspond with the actual worth of things. It should, therefore, be the task of education to morally enlighten and strengthen the understanding, for man is not born a rational creature, but only with power to become one. Locke's doctrine of the freedom of the will exhibits these fundamental characteristics: (1)

Strictly speaking only the moral man, not the will, is free. (2) Freedom has significance and worth for the will only in so far as the will displays enlightened activity under the free guidance of reason. (3) To this 'true freedom' the individual must be educated, first by others, and later by himself.

W. A. H.

Ueber die Methode der Chronologie platonischer Schriften nach sprachlicheren Kriterien. Vorläufige Mittheilung. NATORP. A. f. G. d. Ph., XI, 4, pp. 461–464.

Natorp makes here a preliminary announcement concerning a method for correcting errors in the employment of language statistics in the Platonic chronology. He proposes to correct the absolute statistics employed by Lutoslawski and others, whereby dialogues are determined in their chronological position arithmetically in terms of the frequency of the use of rare words or expressions. Instead of this absolute method, Natrop proposes a relative or comparative method, *e. g.*, the *Phædrus* has actually more rare words than the *Parmenides*, and in this respect is similar to the *Laws*. It is not, however, to be classed in time with the *Laws* on this absolute arithmetical basis. When the *Phædrus* and *Parmenides* are compared with admittedly earlier dialogues, Natorp finds that *Parmenides* has proportionately more rare words in common with the *Laws* than it has in common with the earlier works, but that the reverse of this is true for the *Phædrus*. The *Phædrus* is therefore assigned an earlier date than the *Parmenides* on the basis of this comparison, although contrary to the more numerical count. Natorp also sets the *Parmenides* later, and the *Theaetetus* and *Phædrus* earlier, than the *Republic*. He promises in a subsequent number of the *Archiv* a fuller exposition of his method.

W. A. H.

NOTICES OF NEW BOOKS.

Outlines of Descriptive Psychology. By GEORGE TRUMBULL LADD. New York, Charles Scribner's Sons, 1898.—pp. x, 421.

The present volume is intended primarily as a text-book. It possesses, however, a value and interest quite apart from its merits in this direction, for it contains altogether the clearest, most concise, and closely articulated presentation yet given us of Professor Ladd's mature psychological views. It will be strange if this little book does not displace its larger progenitor, the *Psychology Descriptive and Explanatory*, in the favor of those who desire now and again to find just where Professor Ladd stands upon current psychological questions. Authors may plead the unfairness of thus substituting the less for the greater, but when one writes so plain and terse a tale as this, he deliberately invites its adoption, by those who merely seek the important facts and the fundamental doctrines, in preference to a larger presentation however able and scholarly.

It would be unjust to imply, as the previous paragraph may possibly appear to do, that the present work is in any ordinary sense a mere digest or *résumé* of the earlier treatise on descriptive and explanatory psychology. I have not noticed any radical changes of view, nor, with a single exception, any considerable addition of important material ; although new illustrative matter, including several diagrams, is introduced But wherever old subject matter is presented, it has been entirely rewritten and extensively rearranged.

As a classroom text, the book is sure to meet with a warm welcome, despite the half dozen good books already in the field. It is, in the first place-unusually rich in material, without becoming unduly prolix in its presentation. There is, moreover, a well ordered system running through the whole, although flexibility of treatment does not appear to have been sacri, ficed to this. Particularly happy and judicious is the introduction of much material from experimental sources. This takes its place in a natural, unforced, and unostentatious way that affords a most gratifying indication of the genuine assimilation of such data into the general body of psychological doctrine. Hostile criticism can in this connection direct itself only against obviously debatable matters, involving on the one hand the general ideals of a psychological text-book, and on the other hand the specific needs of definite classes. Such questions may be illustrated by the order of arranging the chapters—which in this special case will probably be altered by many teachers who adopt the text. The placing of the chapter on 'Mind and Body' [the one chapter whose counterpart does not occur in the larger treatise] at the very end of the book is another instance, and as a third, may be cited the introduction of a chapter or two dealing with more or less definitely logical and metaphysical considerations.

From the standpoint of the intrinsic contributions to psychology represented by the book, three items of interest may be noted. These contributions are in the direction of fixing prevalent tendencies, rather than in that of adducing new doctrines, of which there is of course no thought. Two matters of terminology may be mentioned first. In the *Psychology Descriptive and Explanatory*, Professor Ladd entitled the section dealing with sensation, feeling, conation, etc., 'Elements of Mental Life.' In the present book, he emphasizes his distinctly expressed view of the abstract and unreal nature of the psychological 'element,' by calling the corresponding sections 'Processes of Mental Life.' As marking another step in the displacing of static by dynamic categories in our psychology, this change seems to me of genuine significance. The latter portion of the book is entitled 'Mental Development' and is given over to the consideration of instinct, reasoning, memory, emotion, will, etc. If I do not misunderstand Professor Ladd, this terminology involves implicitly a slight abandonment of the merits of his dynamic expression for the previous section. In so far as the later chapters deal with the more complex and highly differentiated processes, and in so far as the fact of growth is made to play a more conspicuous part in the discussions of these processes, no possible objection can be offered to giving the section the title it bears. But in so far as it tacitly implies that development is really less of a feature in the processes considered in the earlier chapters, as distinct from the mode of treating them, the usage is open to criticism. Might it not be a more felicitous procedure to speak of the development of the simpler and more complex processes, thus giving a distinctly genetic turn to the whole terminology and retaining the obvious advantages of the term 'process'?

A change in the arrangement of chapters as compared with the large treatise, shows that Professor Ladd is more than ever confirmed in his view of the essentially fundamental nature of the category of activity, as applied to mental processes. We might suppose this change to be simply indicative of the author's conception of the arrangement most expedient and appropriate for a text-book, were it not for his perfectly explicit statements which show that other and deeper motives are also represented. His earlier work gave us at the outset discussions of primary attention, etc. The present book not only follows this precedent in its consideration of the simpler aspects of consciousness, but also opens its exposition of the more complicated processes with a description of instinct, impulse, and desire, as in some sort typical of the things to follow. Taken as a fresh indication of the hold this general view is gaining over our leading writers, the facts in this special case possess an interest and importance quite beyond their face value.

The usefulness of the book is greatly enhanced by a good index. The printing and binding are both excellent, although too much small type is used for a text-book.

JAMES ROWLAND ANGELL.

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Darwin and after Darwin. Volume III. Post-Darwinian questions: Isolation, Physiological Selection. By the late GEORGE JOHN ROMANES, Honorary Fellow of Gonville and Caius College, Cambridge. Chicago, The Open Court Publishing Company, 1897.—pp. viii, 181.

Of the six chapters which constitute this volume the first two on "Isolation" and the last on "The History of Opinion on Isolation," were in type at the time of the author's death. The editor, Mr. Lloyd Morgan, has made no important alterations in these chapters, but holds himself responsible for the selection and arrangement of all that is contained in the other three. The work of editing has been well done and the book, as a whole, is an interesting and valuable contribution to post-Darwinian literature.

The thesis of this volume is that "Isolation is one of the most important principles that are concerned in the process of organic evolution." "Equalled only in its importance by the basal principle of Heredity and Variation, this principle of Isolation constitutes the third pillar of a tripod on which is reared the whole superstructure of organic evolution." By 'isolation' the author understands the prevention of indiscriminate intercrossing, whether this be due to geographical barriers, sexual selection, instinctive preferences, or to any other of the numerous means whereby isolation of species may be secured. The importance of isolation is evident from the fact that so long as there is free intercrossing, heredity cancels variability and leads to uniformity of type. There are two forms of isolation of such immeasurable importance that were it not for their virtually ubiquitous operation the process of organic evolution could never have begun. These are sexual incompatibility, or physiological selection, and natural selection. If sexual incompatibility did not exist, if the bar of sterility were removed which now isolates all the species of a genus, these species, if not otherwise prevented from intercrossing, would in time become blended into a single type. As regards natural selection it may seem paradoxical to classify it as a form of isolation. That this is the most accurate way of viewing it, however, is evident when we reflect that it is a process by which the fittest are prevented from crossing with the less fit by the elimination of the latter. It is, therefore, less fundamental as a factor of organic evolution than the principle of isolation in general. Natural selection differs from all the other known forms of isolation in that it has exclusive reference to adaptations; it differs from most of the other forms of isolation in that of itself it can never lead to polytypic but only to monotypic evolution. It can give rise to *transformation* of characters in a single line, but it cannot give rise of itself to any *divergence* of character in ramifying lines. This follows necessarily from the nature of the principle. It acts by destroying the unfit and it does not by itself prevent inter-breeding among the survivors. Hence if no other form of isolation is present, the average character of 'the fittest' will assert itself. A new type will be produced, but not diverging types.

Other arguments against the view that natural selection is a sufficient ex-

planation of the origin of species, are adduced in the chapters which are devoted to the defence of the principle of physiological selection. The latter principle may be briefly outlined as follows: The most variable part of an organism is the reproductive system, and the variations may involve either increased or diminished fertility. If the variant, while showing some degree of infertility with the parent form, continues to be as fertile as before when mated with similar variants, there is no reason why such differential fertility should not be perpetuated. This suggestion enables us to regard many, if not most, species as the records of variations in the reproductive systems of their ancestors. When variations of a more useful kind occur in any of the other parts of organisms, they are as a rule immediately extinguished by intercrossing. But whenever they arise in the reproductive system in the way here suggested, they tend to be preserved as new natural varieties or incipient species. At first the difference could only be in respect to the reproductive systems, but eventually on account of independent variation other differences would supervene, and the variety would take rank as a true species. It is evident that this theory, if established, would solve many difficulties, and it must be admitted that the author makes out a strong case in favor of his position. He points out, for instance, that the necessity of physiological selection for the *maintenance* of existing specific differentiation cannot be denied; for if the isolation which it implies were suddenly abolished between two allied species occupying a common area they would sooner or later become fused into a common type—if we suppose, of course, that no other form of isolation were present. "Why, then," he asks, "should it be regarded as a 'Darwinian heresy' to regard physiological selection as an important factor in the *attainment* of specific differentiation?" It is important to notice in conclusion that while the author limits the range of Natural Selection he thereby justifies and strengthens its claim to be regarded as an essential factor in organic evolution. This is not the least important aspect of his general position.

DAVID IRONS.

Animal Intelligence. By EDWARD L. THORNDIKE. Monograph Supplement of the Psychological Review, II, 4. New York, The Macmillan Co., 1898.—pp. 109.

It has long been agreed among psychologists that animal psychology is one of the most poorly developed and unsatisfactory branches of the science. Mr. Thorndike has gone a long way to remedy its defects, to substitute experiment for observation, and to apply in practice the law of parsimony that has been universally approved in theory, but in theory only. The immediate problem was to study the function of association and imitation in the animal mind, and to determine whether concepts or more complex processes were to be found there. Experiments were made upon cats, dogs, and chicks. Hungry cats and dogs were confined in cages, the doors of which could be opened by pulling a string, turning a button, or some

other simple movement. Chicks were separated from their fellows by tortuous passages, and left free to find their way back. When the animal had escaped, it was returned to confinement, and this operation was repeated until the mechanism had been thoroughly ingrained. The decrease in the time that was required to get out was a measure of the rate at which the association was formed. In every case the movement was hit upon by accident in the undefined struggles to escape, and was not the result of inference. Nor did imitation prove itself to be of any value. None of the animals would perform the movements more quickly or accurately after seeing another do the same thing, and if the suitable movement had not been discovered by chance, it was not by the help of imitation. Association is the fundamental process in the animal mind.

Some interesting results were obtained from experiments made to determine the nature of the association that gives rise to the movement. It was found that to force the animal through the movements necessary to release it, did not help it to repeat them. The animal must itself initiate the movements, or it does not acquire the power to perform them. From this it is argued that there is no association of ideas, but only an association between a sense impression and an impulse. It seems that this evidence is not unexceptionable however. For, as the author notes later, in man an act is not learned from having the member directed to its performance by another, and the same line of reasoning would show that man does not possess ideas. It seems rather that the association learned in one direction, from sensations of movement to the impulse, is not the same as from the impulse to the sensation of movement.

It is shown that animals do not need concepts to perform any of the actions that the author noted. It was found that a dog, that could release himself by pulling open a loop of one kind in one position, would pull a different loop in another place without hesitation. This, says the author, can be most simply explained, not by assuming that the dog recognized the similarity in the two cases, but by the supposition that he failed to observe the difference between them. It is an evidence of poorly developed perception, not of an incipient reason. The tricks of educated animals are reduced to associations, which, it is shown, may obtain a considerable degree of complexity, and persist practically undiminished over long periods of time. Both social consciousness and attention, in any high form, are denied to animals. All of these results, however, are restricted to animals below the primates. The opinion of the author is that monkeys show signs of imitation and other related elements of a more complicated nature, although he has so far been unable to experiment upon them.

Mr. Thorndike is to be congratulated upon the outcome of his work. He has opened a new field, where, it is to be hoped, he will have many followers.

W. B. PILLSBURY.

Hellenica. A Collection of Essays on Greek Poetry, Philosophy, History, and Religion. Edited by EVELYN ABBOTT, M.A., LL.D., Fellow and Tutor of Balliol College, Oxford. Second Edition. London, New York, and Bombay, Longmans, Green & Co., 1898.—pp. x, 449.

This work (published by Rivingtons in 1880) has been before the public for eighteen years, and is now reissued without any material changes. A few verbal alterations and omissions have been made, but the book remains substantially the same. It seems worth while, however, to call attention to the extremely valuable series of essays which it contains. The essay by the late R. L. Nettleship (pp. 61–166), seems to me one of the most valuable and suggestive discussions that have ever been written on Plato's Republic. The papers on 'The Theology and Ethics of Sophocles,' 'Aristotle's Conception of the State,' and 'Epicurus,' are also of great interest and value to students of philosophy. The complete table of contents is as follows: 'Æschylus,' by Ernest Myers; 'The Theology and Ethics of Sophocles,' by the editor; 'The Theory of Education in Plato's Republic,' by R. L. Nettleship; 'Aristotle's Conception of the State,' by A. C. Bradley; 'Epicurus,' by W. L. Courtney: 'The Speeches of Thucydides,' by R. C. Jebb; 'Xenophon,' by H. G. Dakyns; 'Polybius,' by J. L. Strachan-Davidson: 'Greek Oracles,' by F. W. H. Myers.

J. E. C.

Les lois sociales, esquisse d'une sociologie. Par G. TARDE. Paris, Félix Alcan, 1898.—pp. 165.

This little book is, as M. Tarde tells us in his preface, at once a *résumé* of the principles contained in his larger works, *Les lois d'imitation*, *L'opposition universelle*, and *La logique sociale*, and an exhibition of their essential unity—the metaphysical basis of his sociology. We have the three great laws of the phenomenal world stated as the laws of repetition, of opposition, and of adaptation; and the most fundamental of these is the law of repetition. In sociology, it takes the form of imitation; the primary social unit, corresponding to the simple vibration in physics, or the cell in biology, is the act whereby one individual imitates another. The law of opposition is the law whereby certain processes of repetition find themselves incompatible; in sociology, the elementary phenomenon of opposition occurs when two conflicting beliefs or desires encounter each other in a single mind. Opposition always passes into adaptation, and the elementary phenomenon of adaptation is of course the invention. To start the imitative currents in society, we must have individuality, inventions; and this suggests that back of repetition in the whole phenomenal world, *au fond des choses*, there must be the heterogeneous, not the homogeneous. That is, if the essential world process is repetition, and we find unlikeness in the result, there must have been unlikeness to start with.

MARGARET FLOY WASHBURN.

Evolutional Ethics and Animal Psychology. By E. P. EVANS. New York, D. Appleton & Co., 1898.—pp. 386.

This book raises the question of man's moral relation to the lower animals. The author's contention is that, if we fully realize all that the doctrine of evolution implies, we must recognize that animals have rights which we are morally bound to respect. He finds that "in tracing the history of the evolution of ethics the recognition of mutual rights and duties is confined at first to members of the same horde or tribe, is then extended to worshippers of the same gods, and gradually enlarged so as to include all races of men." At the present time all forms of organic life, however inferior to man, are being slowly brought within the sphere of mutual rights and duties. The process throughout has been slow, owing to the false notions engendered by "man's false and overweening conceit of himself as the member of a tribe, the inhabitant of a planet, or the lord of creation." At the present time, despite the doctrine of evolution, this primitive conceit still remains in the form of anthropocentric prejudice and prepossessions, and Mr. Evans therefore devotes most of his energy to the marshalling of facts against this last stronghold of the enemy. He brings forward a great array of evidence to prove that animals do act with a consciousness of the end to be attained, can adapt themselves to circumstances, have moral qualities, and are capable of intellectual and moral progress. It is shown also that they have social institutions, and that these are subject to a process of development. Highly developed animal communities, such as those which are formed by certain species of ants, present many features curiously analogous to those of human societies. Moreover, according to Mr. Evans, there is evidence to prove that animals have general ideas, can communicate with one another, have æsthetic taste, and even the elements of the religious sense. In short there is no barrier between man and beast, and "the more exact and extended our knowledge of animal intelligence becomes, the more remarkable does its resemblance to human intelligence appear." The book as a whole is an interesting, if rather popular and discursive, treatment of one of the applications of the theory of evolution.

DAVID IRONS.

Zu Fichtes Lehre vom Nicht-Ich. DR. OSCAR BENSOW. Berner Studien zur Philosophie und ihrer Geschichte, XII. Bern, Steiger & Cie, 1898. —pp. 41.

This monograph is a brief study of the relation between Fichte and Kant, with special reference to the problem of the thing-in-itself. After a short sketch of the contributions of Reinhold, Schulze, Maimon, and Beck, to the doctrine of the *Ding-an-sich*, the author turns to the consideration of his special problem. The following are his chief conclusions: The Non-Ego differs from Kant's thing-in-itself in that it is "merely something for the Ego." Moreover, from the point of view of the 'practical' *Wissenschafts-*

lehre, we see that even the *Anstoss* can be deduced from the Ego. As compared with Kant's, Fichte's doctrine of knowledge represents a Copernican revolution: Kant seeks to deduce self-consciousness from the possibility of experience; Fichte, to deduce experience from the possibility of self-consciousness. If we interpret Kant as making the thing-in-itself and the Ego-in-itself wholly independent of each other, we must admit the wide difference between him and Fichte. But if we assume that his "transcendental subject and transcendental object are somehow united in a higher unity"—and we must do so, if we are to explain their interaction without the hypothesis of a preëstablished harmony,—then we have to admit that the likeness between the thing-in-itself and the Non-Ego is 'unmistakable.'

ELLEN BLISS TALBOT.

A Mechanico-Physiological Theory of Organic Evolution. Summary. By CARL VON NÄGELI. Translated by Professor F. A. Waugh, and Mr. V. A. Clark, of the University of Vermont. Chicago, The Open Court Publishing Co., 1898.—pp. 53.

This is a translation of the summary which is appended to Nägeli's *Theorie der Abstammungslehre*. Its purpose is to draw the attention of American students to a writer "who has received such comparatively small notice in this country." The translators have added an appendix which gives a brief but clear and comprehensive statement of Nägeli's characteristic doctrines. This renders the text much more intelligible to the general reader, but since it serves the purpose of an introduction it ought perhaps to have been placed before, instead of after, the translation. The pamphlet is a modest but well-executed and useful piece of work.

DAVID IRONS.

Metafisica, Scienza e Moralita, Studi di Filosofia Morala. DI FRANCESCO DE SARLO. Roma, Tipografia di Giovanni Balbi, 1898.—pp. xlv, 143.

This volume contains an interesting and noteworthy contribution to some of the vexed questions of metaphysical and ethical philosophy. In its scope and purpose, it bears a certain resemblance to Balfour's *Foundations of Belief*, but it is stronger in thought, more cautious in criticism, and less ornate in style, than that popular but somewhat amateurish production. Signor de Sarlo stoutly maintains the claim of metaphysics to be the necessary complement to natural science; while he holds that both metaphysics and science rest on assumptions that are essentially ethical. The conception of values, a conception thoroughly intrinsic to thought itself, underlies and determines our whole interest in knowledge. Reason apprehends the real through and by means of its ideals, without which we cannot think things at all. And as science comes from the need we feel of idealizing the actual, so morality springs from the need we feel of actualizing the ideal—both needs being fundamental and of the very essence of human nature. The ideal implies the notion of value, hence the teleological point

of view is both legitimate and indispensable. Thought, moreover, is not a mere epiphenomenon of nature, it is constitutive of reality. The real world is an intelligible system, a world of rational relations, and itself expressive of reason. Thus it is essentially moral, for morality is just reason in action. From this teleological conception of the world, Signor de Sarlo readily passes to a theistic interpretation of the universe. Perhaps he does not quite sufficiently consider what stumbling-blocks may lie in the way of this transition. Nineteenth century idealists have ever been very ready to treat a reference to the Absolute as a solution for any metaphysical puzzle. Signor de Sarlo is most acute in his criticism of the Hegelian doctrine of the relation of the individual consciousness to the Absolute Reason. But is not his own theism open to the objections, so long ago raised by Spinoza and perhaps never adequately met, to the attempt to represent the Infinite, the whole, as being moral in any intelligible sense? His discussion of freedom as opposed to 'physical necessity' does not appear to the present critic to contain anything new or convincing, and the attempt to rehabilitate the doctrine of innate or intuitive moral ideas does not seem satisfactory. As a whole, however, the work is well worth careful study, and should not be neglected by anyone who is interested in watching the currents of contemporary philosophical speculation.

E. RITCHIE.

Les principes du positivisme contemporain. Par JEAN HALLEUX. Paris, Ancienne Librairie, Félix Alcan, 1895.—pp. 351.

This book is a statement and criticism of Positivism as found in the works of Comte, Mill, Taine, and Spencer. The author is very systematic in his procedure, giving us, by way of introduction to the critical work, three chapters devoted respectively to general outlines and definitions, to the logical evolution of Positivist principles, and to the historical development of the same. There are, says M. Halleux, two kinds of thinking, the Empirical and the Speculative; the first is the method of Observation and deals with the concrete, contingent facts of experience; the second is the method of Reflection upon the abstract and necessary relations of ideas. Now Positivism is Empiricism; but, more than that, it is an Empiricism hostile to Speculation—an Empiricism which denies validity to any element of thought which is not empirical. The central principles of the school are (1) a Sensational Nominalism, which has come down from Teleso, Descartes, Bacon, Hobbes, Locke, and Condillac, and (2) a Phenomenalism, which may be traced to Kant and Hume. The first of these principles insists upon the 'given' of sense as the only source of knowledge, and denies the validity of all attempts to 'think' it out of its particularity; the second repudiates all reality beyond the conscious state itself, and thus confines knowledge within the world of phenomena. Knowledge, then, has to do only with sense-particulars; its aim is to classify these in their relations of coexistence and sequence; and all attempts to explain or gen-

eralize, to find causes and substances, are vain abstractions. This position seems to M. Halleux not wholly false, but rather an exaggeration of the truth. It is true that all knowledge comes from sense, but yet by reflection upon this we do reach general principles which are valid. It must be admitted that sensuous knowledge is by nature imperfect and external, failing to reach the 'inner nature' of things, but still there is a reality to be known, and in some measure our thought gets at the nature of that reality.

The reasoning by which these conclusions are reached is neither very original nor very convincing, but there is in it a smack of individuality which often gives it interest. The main line of argument is somewhat as follows: sensuous knowledge is external and phenomenal, because in any object of knowledge, *e. g.*, a man, all the sensuous qualities are continually passing away, while the man himself remains; there must then be an inner nature, an essence, not revealed to sense, which is the nature of the thing in itself, and remains ever the same. But secondly, an examination of general thinking reveals the fact that it is just such an essence as this which it seeks to know; our concept 'man' is that of the type, the genus, which is ever identical with itself, even though it constantly appears in the multitudinous accidents of sense. It follows therefore that general thinking, in part at least, escapes phenomenality and strives after the essential nature of things as they are. Here is a very satisfactory conclusion, but the way to it does not seem wholly clear or unobstructed. One would ask, first, for more light upon the statement that the 'type' or 'essential nature' which remains the same throughout a man's life is the true nature of the man in any other sense than is any passing modification of his being. And secondly, if the sensuous qualities do not reveal the true nature, it is not at all evident how the concept, which is avowedly only an abstraction from these, can do so.

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BROWN UNIVERSITY.

The Gospel According to Darwin. By WOODS HUTCHINSON, A.M., M.D. Chicago, The Open Court Publishing Co., 1898.—pp. 241.

As might be inferred from the title, *The Gospel According to Darwin* is a comparison of modern theology, especially that of the Calvinistic type, with the conclusions deduced by the author from the theory of Darwinism. In place of the modified Manichæism of Dante and Milton, it proposes to instal the doctrine of the actual effective omnipresence and omnipotence of the good. In opposition to the dogma of total depravity, it calls attention to the fact that vice is for the most part but virtue misapplied. Current views of death it would rob of their horror, by showing that they are based on misunderstanding or exaggeration. Finally, in contrast with the hope of "an indefinite prolongation of our petty personal existence," we are pointed to the glory of membership in the Choir Invisible. The exposition of these familiar doctrines cannot be pronounced either critical or coherent

at every point. When we are told by way of a theodicy that "the essential benefit of pain lies in the avoiding of its cause," we are reminded of Diedrich Knickerbocker's account of the benefit conferred upon the Indians by the Dutch in introducing medicines among them, and then, that these blessings might be enjoyed to the full, introducing the diseases which the medicines were calculated to cure. The glorification of the courage and perseverance of the ant and the bee may be forgiven Isaac Watts, but not a contemporary of Lloyd Morgan. The point of view of those who, with Professor Royce, deny the possibility of a philosophy of evolution, in any legitimate sense of that term, has never dawned upon the author. Nevertheless, he has produced a manly and in many ways an imposing book, one well adapted to the needs of the young student of biology, who, despising, as every good biologist should, the subtleties of the metaphysician, is none the less building up for himself a philosophy of atheism and despair.

FRANK CHAPMAN SHARP.

Zusammenhang zwischen Ethik und Æsthetik. Von DR. M. J. BERDYCZEWSKI. Berner Studien zur Philosophie und ihrer Geschichte, Band IX. Bern, Steiger & Cie., 1897.—pp. 57.

The standpoint of this essay is absolute phenomenalism. Its aim is to identify ethics with æsthetics. It begins with the dictum: "Man is the measure of all things." This must apply to the practical as well as to the theoretical. There is no universally valid truth and no universally valid law of conduct. Kant is fundamentally inconsistent in attempting to give an insight into the noumenal world by means of the moral will in his second *Critique*, after demonstrating the unknowableness of the noumenal in the first *Critique*. He cut the Gordian knot with a sword. The place of logic is usurped, albeit quite effectively, by his glowing enthusiasm. But the author maintains: "I cannot belong to two worlds at the same time. There is only one world, and that is my world, in which I live and work with all my powers of soul—the world of phenomena."

The second chapter reviews cursorily the historical theories of the relation of the moral and the beautiful, giving special attention to Bruno, Shaftesbury, Schiller, and Herbart. In the third and fourth chapters, which contain the main argument of the essay, the subject is viewed respectively from the standpoints of contemplation and creation. In both cases the moral and the æsthetic are found to be one, or more exactly the moral is identified with the æsthetic. The marks of freedom from interest and independence of existence, by which Kant characterizes the objects of the æsthetic judgment, are shown to belong in the same sense and in the same degree to the objects of our moral judgment. Both judgments are of the nature of a clear, immediate, intuitive presentation, a sudden admiration which cannot find its source in reason, but only in feeling. Both produce a transcendent effect. "The æsthetic and ethical contemplation is something super-personal, super-human. On this height man comes to know himself; he forgets his

weal and woe, his striving and his goal. Here he is no longer what he *is*, but what he *can be*." On the creative side, the ethical is identified with the æsthetic by means of the principle that the aim of action lies in contemplation. The moral life is a work of art. "I believe that morality is in no wise limited to social welfare alone, to the relation of the individual to the environing world. It is much more the purely individual life as a whole in its manifold forms; it is the artistic expression of the individual endowment. Can we not speak in the Greek world of a Doric and an Ionic style of life just as in their art? Is not Cynicism, Stoicism, a certain style of life? And is not also the Christian moral ideal a revelation of the highest art, by which man recreates himself anew and redetermines his values?" Just as the source of æsthetic principles is found in the actual creations of the æsthetic genius, so ethical principles and ideals have their source in the life of the moral genius. The fifth chapter argues that *Sollen* is only a future *Sein*, and that in so far as we may speak of a *Sollen*, the category belongs to the æsthetic as much as to the moral. Duty in short is but a piece of nature, and the power that impels me to the exercise of my acts is no other than that which compels the tree to unfold its blossoms.

A brief concluding chapter soars away into the upper mists of ethical dialectics. In spite, however, of a certain tendency in this same direction all the way through, this little essay is highly suggestive. In the middle of the all too harmonious opinion of recent writers that morality is a purely social affair, it is refreshing to hear once more a voice raised in behalf of individual morality.

F. C. FRENCH.

VASSAR COLLEGE.

The Nature and Development of Animal Intelligence. By WESLEY MILLS. New York, The Macmillan Company, 1898.—pp. x, 307.

This is very largely a compilation of certain papers that the author has either read before various societies or published in certain well-known journals. It consequently lacks that homogeneity and orderly arrangement that one expects to find in any recent contribution to the study of comparative psychology. Some of the chapters were written many years ago, and the body of the book is largely made up of annotations from the author's diary, "a storehouse of reliable facts, from which each reader may draw his own conclusions." The filling of storehouses with promiscuous data has indicated, to be sure, a stage in the development of various branches of natural science, though certain writers on animal intelligence have had a happy faculty of selecting with some definite end in view, rather than of merely collecting, and leaving to others the often laborious process of rearrangement, interpretation, and elimination. The chapter on Hibernation is largely a dreary abstract from the *American Journal of Insanity*, and contains material eminently inappropriate to any work on intelligence, and of absolutely no scientific value. Other portions of the book are often equally disappointing, and the reader is frequently reminded of a sentence

which appears in the preface, "Filling up books and periodicals is one thing, and reaching truth another." HERMON C. BUMPUS.

The Play of Animals. By KARL GROOS. Translated by Elizabeth L. Baldwin. New York, D. Appleton & Co., 1898.—pp. 341.

This is a translation of the excellent work of Professor Groos which appeared in 1896, under the title, *Die Spiele der Thiere*, and has since become both a manual and a text-book for those who see in the play of animals something more than the dissipation of surplus energy; who perceive the hand of natural selection in the molding and development of instinct; and who interpret the various psychological processes of man in the same light of descent in which the comparative anatomist interprets the complicated mechanism of certain somatic structures. The present is practically a revised edition of the original work, for the author and the translator have added a considerable amount of material which the development of comparative psychology has recently produced. Professor Baldwin has prepared an editor's preface, which adds materially to the value of the work, and doubtless will be consulted frequently by the reader. The book will be welcome to students both of biology and physiology, and the general reader will find it an interesting treatment of a scientific subject, presented without bewildering technicalities, and in a most pleasing style.

HERMON C. BUMPUS.

University Addresses. By PRINCIPAL CAIRD. Glasgow, James Machehose and Sons, 1898.—pp. viii, 383.

This is a collection of fourteen addresses delivered before the students of the University of Glasgow, ranging in date from 1874 to 1897. The addresses were delivered by a learned and thoughtful man, possessed of the Scottish national habit of reflection, and widely read in philosophy, to educated but general audiences. The earliest addresses in the book are the most rigidly philosophical, dealing, in a more or less abstract way, with the 'Unity of the Sciences,' and with the 'Progressiveness of the Sciences.' The author then devoted himself, from 1877 to 1882, to addresses upon 'typical examples' of scholars in the various branches of knowledge. Only selected addresses from this period are given, including, however, papers on Erasmus, Galileo, Bacon, Hume, and Bishop Butler. There then follow papers of more miscellaneous character, on the Study of History, the Science of History, the Study of Art, the Progressiveness of Art, the Art of Public Speaking, the Personal Element in Teaching, and General and Professional Education. The point of view is throughout philosophical, *i. e.*, that of the seeker after scientific principles of knowledge. The addresses should have considerable value for the general public of educated persons, and to audiences such as those to whom they were first presented.

H. C. HOWE.

Herbert Spencer's Evolutionstheorie. I. D. Von GEORGE S. PAINTER. Jena, Druck von Bernhard Vopelius, 1896.—pp. 56.

This thesis is an interesting study on the question of Mechanism versus Teleology. The author selects Spencer's system for consideration because the theory of evolution has given new life to the mechanical conception, and Spencer's philosophy is the one complete system built up on the evolutionary standpoint. He gives a clear and concise statement of Spencer's views, and, in the criticism which follows, brings out the inconsistencies of Spencer's own position, as well as the difficulties inherent in the evolutionary hypothesis when it is put forward as an ultimate theory of the universe. His main point seems to be that the purely homogeneous as such is "logically and physically" in a state of equilibrium, and could never originate any process whatever. Hence the evolutionist, however far back he may go, must assume a certain definite organization of parts, and also general laws, and thereby must presuppose certain things which mere mechanism cannot explain. Mechanism, in short, works within a definite order which can only be explained teleologically; it is the servant of intelligence and teleologically conditioned throughout.

DAVID IRONS.

Ist Verneinung des Willens möglich? Von DR. PHIL. FRIEDRICH WAGNER. Stuttgart, Fr. Frommann's Verlag, 1897.—pp. 32.

The author informs us that this study is not to be taken as primarily a critique of Schopenhauer, but rather as a psychological analysis of ascetic ideals of life. But since he considers that his object can be best obtained by treating the ascetic ideal as a form of the negation of the will to live, as Schopenhauer understood the term, his investigation practically resolves itself into an attack upon the Frankfort philosopher's psychology of volition. The solution of the problem proposed in the title is given with the identification of the will with interests. This step once taken, it is easy to show that neither in altruistic action, nor in philosophical meditation, nor in asceticism, is the will for an instant negated. The author does not attempt an advance upon current analyses of the will. What he brings, therefore, is merely the proof of a proposition which we in America at least had long ago agreed might be taken for granted.

FRANK CHAPMAN SHARP.

Grundprobleme der Naturwissenschaft. Briefe eines unmodernen Naturforschers. Von DR. ADOLF WAGNER. Berlin, Gebrüder Boentraeger, 1897.—pp. vi, 255.

Recent efforts to work out a theory of knowledge by psychological analysis conditioned by materialistic metaphysics have been far from satisfactory. Yet there seems to be a vague belief that epistemology must conciliate 'naturalism' by incorporating its fundamental theses. The vanity of any such attempt is seen, not only in its incoherent results, but in reflecting

that materialism is itself a metaphysical system, the removal of which would not disturb science in the least. Indeed, it is quite noticeable that this system raises more difficulties than it solves, and that reflecting physicists are the first to abandon it. Dr. Wagner has subjected the foundations of naturalism to a very clear and effective examination, in which he shows himself quite at home in current science and philosophy. It is noticed that the development of epistemology shows three distinct stages: naïve realism, which takes everything in consciousness for standard coin; scientific materialism, which, while recognizing that certain qualities of things are subjective phenomena, yet excludes this subjectivity from matter; critical philosophy, which concludes that matter has no reality apart from consciousness because its phenomena are all subjective. The theses of naturalism, here examined, are that matter is not merely empirically real, but transcendently real; that this real matter consists of invisible atoms, partly material, partly ethereal; that among these atoms the forces of attraction and repulsion are incessantly working; and that these forces, working mechanically, constitute the nature and the ultimate explanation of all things. Dr. Wagner's point of view in regard to the fundamental notions of science is the same as that of Kant, Schopenhauer, Von Helmholtz, Ostwald, and Erhardt, while his general philosophy is strongly voluntaristic, and in the main agreeing with that of Schopenhauer, although considerably modified in details. Denying with Ostwald the reality of matter, he finds reality the energy alone, which idea arises out of our psychical nature and is one with will. Here physics and metaphysics are one, but at the first move they part, the former to its field, the world of phenomena, the latter to the world of thought, taking with it the principle of causality—leaving the physicist without any right to employ this principle except by turning metaphysician. Here Dr. Wagner is at one with Schopenhauer, and the three categories of existence are reported as satisfying all demands of both science and philosophy.

Some of the results regarding the limitations of naturalism are as follows: Naturalism is right in moving out from experience, but wrong in limiting experience to the external and sensuous; it is right in seeking progress in the inquisition of the material world, but in error in ignoring the subjective factors which render knowledge possible; it is right in treating matter as an empirical reality, but wrong in giving it real existence outside of the realm of the perceptual; it is right in seeking the unity of all specific physical forces, but physical forces are not ultimately explained by physical forces, attraction and repulsion. It is erroneous to suppose that the material properties of the external world can explain the nature and functions of the psychical life. Equally false is the position that in organic nature no other forces are at work than in inorganic nature, or that the former may be understood by a study of the latter, or that the immediately given is a product of the mediately given.

Perhaps the most interesting part of the treatise is the second (Sects. 153–255), where some of the more important problems of biology are considered,

and where also the doctrine of Schopenhauer comes face to face with that of Darwin. So far as we know there is no transmutation of species, and, as far as we have any evidence, the change within the limits of species is sudden, not gradual. As for natural selection as an explanatory factor, it can be applied only when there are already present a definite nature and a definite variation, while teleology is already present before natural selection is possible. The many problems of biology needing explanation force one to abandon the naturalistic method, and resort to the principle of will within the organism itself.

MATTOON M. CURTIS.

ADELBERT COLLEGE.

The following books also have been received:

Foot-Notes to Evolution. By DAVID STARR JORDAN and Others. New York, D. Appleton & Co., 1898.—pp. xviii, 392.

Instinct and Reason. By HENRY RUTGERS MARSHALL. New York, The Macmillan Co.; London, Macmillan & Co., Ltd., 1898.—pp. xiii, 574.

Zoroaster. The Prophet of Ancient Iran. By A. V. WILLIAMS JACKSON. New York, The Macmillan Co.; London, Macmillan & Co., Ltd., 1899. —pp. xxii, 312.

Degeneracy. By EUGENE S. TALBOT. London, Walter Scott, Ltd.; New York, Charles Scribner's Sons, 1898.—pp. xvi, 372.

Spiritual Consciousness. By FRANK H. SPRAGUE. Wollaston, Mass., Frank H. Sprague, 1898.—pp. 238.

Voices of Hope. By HORATIO W. DRESSER. Boston, Geo. H. Ellis, 1898.—pp. 213.

The Critical Review. Edited by S. D. F. SALMOND. Vol. VII and VIII. Edinburgh, T. & T. Clark; New York, Imported by Charles Scribner's Sons, 1897 and 1898.—pp. 508, 504.

Ueber die Grundvoraussetzungen und Consequenzen der individualistischen Weltanschauung. Von WINCENTY LUTOSLAWSKI. Helsingfors, J. Simelii Erben, 1898.—pp. 88.

Wesen und Aufgabe der Sociologie. Von LUDWIG STEIN. Berlin, Georg Reimer, 1898.—pp. 38.

Einleitung in die Philosophie. Von OSWALD KÜLPE. Zweite Auflage. Leipzig, S. Hirzel, 1898.—pp. viii, 279.

Le rôle social de la femme. Par MME. ANNA LAMPÉRIÈRE. Paris, Félix Alcan, 1898.—pp. 174.

Li livres du gouvernement des rois. With Introduction and notes by SAMUEL PAUL MOLENÆR. New York, The Macmillan Company; London, Macmillan & Co., Ltd., 1899.—pp. xlii, 461.

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In Memoria di Agostino Moglia. Per LORENZO MICHELANGELO BILLIA. Milano, Lodovico Felice Cogliati, 1899.—pp. 25.

L'Esiglio di S. Agostino. Per L. M. BILLIA. Torino, Fratelli Bocca, 1899. —pp. xi, 149.

Sulle Dottrine Psicofisiche di Platone. Per L. M. BILLIA. Modena, Coi Tipi Della Società Tipograpica, 1898.—pp. 17.

Sânkhya Philosophy. By SATISH CHANDRA BANERJI. Calcutta, Hare Press, 1898.—pp. lvi, 300.

NOTES

RARE KANT BOOKS.

THE following titles form a catalogue of early editions of Kant's writings, and of rare books dealing with his philosophy. It is based on the Harvard University and Harvard Divinity School libraries, and includes a thorough examination of the other libraries of the vicinity which are mentioned, and a few notices of books elsewhere. I should be pleased to learn of books of this kind in other libraries. The numbers before the titles are the ones under which they are catalogued in Adickes's *Bibliography*. The rarity of books is often difficult to determine. I have omitted, for example, Cousin and the French translations by Tissot, while I may have included some books not as rare as these.

10. Kant: Frühere noch nicht gesammelte kleine Schriften. 1st part, 1795; 2d part, 1797; Boston Univ. Theol. Sch. Lib.

11. Kant: Opera ad philosophiam criticam, 4 vols., translated by Born, 1796–1798, Harv.

12. Kant: Sämmtliche kleine Schriften, in chronological order, 1797, 1st 3 vols., Harv. Div. Lib.

13, 13 a. Vermischte Schriften, ed. by Tieftrunk, 3 vols. of 1799, and 4th vol. of 2d ed., 1807, Harv.

14. Kant: Sammlung einer bisher unbekannt gebliebenen kleinen Schriften, ed. by Rink, 1800, Harv. Div. Lib.

17. Gedanken von der wahren Schätzung, 1746 [really 1747], Astor.

20. Allgemeine Naturgeschichte und Theorie des Himmels 1755, Astor; 1797, Boston Univ. Theol. Sch. Lib. [see No. 10 above].

46. Kritik der reinen Vernunft, 2d ed., 1787, Boston Athenæum; 3d ed., 1790, Harv.

49. Prolegomena, 1794, counterfeit ed., Harv.

67. Kritik der practischen Vernunft, 2d ed., 1792, Harv.

70. Ueber eine Entdeckung, etc., 2d ed., 1791, Harv.

71. Kritik der Urtheilskraft, 2d ed., 1793, Harv.

79. Die Religion innerhalb der Grenzen, etc., 1st ed., 1793, Boston Univ. Theol. Sch. Lib.

79. Die Religion innerhalb der Grenzen, etc., 2d ed., 1794, Harv.

84. Zum ewigen Frieden, new ed., 1796, Harv. Div. Lib.

85. (and 85, additions and corrections), Constitutio principii metaphysicæ morum, translated by J. Ch. Zwantziger, 1796, Harv.

90. Die Metaphysik der Sitten: Tugendlehre of 1st ed., 1797; Rechtslehre of 2d ed., 1798, Harv. Div. Lib.

94. Antwortschreiben an den Abt Sieyes (forgery), no place of publication, 1797, Harv.

96a. Der Streit der Facultaeten, 1798, Boston Univ. Theol. Sch. Lib.

98. Anthropologie in pragmatischer Hinsicht, 1798, Harv.

98. Additions, Anthropologie in pragmatischer Hinsicht, Frankfurt und Leipsic, 1799, counterfeit ed., Harv. Div. Lib.

98. Anthropologie in pragmatischer Hinsicht, 2d ed., 1800, Boston Pub. Lib.

104. Kant: Logik, ed. by G. B. Jäsche, 1800, Harv.

104. Additions, Logik, ed. by G. B. Jäsche, 1801, counterfeit ed., Columbia.

105. (see 105 additions), Kant: Physische Geographie, ed. by Vollmer, 1805, 4th vol. only, Harv.

108. Ueber Pädagogik, Rink, 1803, Harv.

109. Kant: Physische Geographie, ed. by Rink, 2 vols., 1802, Harv.

110. Ueber die . . . Preisfrage: Welches sind die wirklichen Fortschritte, etc., ed. by Rink, 1804, Harv.

113. Kant: Vorlesungen über die philosophische Religionslehre, 1st ed., 1817, Boston Pub. Lib., Astor; 2d ed,, 1830, Astor.

114. Kant: Vorlesungen über die Metaphysik, 1821, Boston Univ. Theol. Sch. Lib.

123. Kant: Menschenkunde oder philosophische Anthropologie, ed. by Starke, Columbia.

195. Johann Schulze: Erläuterungen über des Herrn Professor Kant's Kritik der reinen Vernunft, new ed., 1791, Harv.

242. Reinhold: Additions and corrections, Briefe über die kantische Philosophie, Mannheim, 1789. Harv, Div. Lib.

243, 245. Reinhold: Briefe über die kantische Philosophie, 2 vols., 1790–92, Harv.

305. Adam Weishaupt, Ueber die kantischen Anschauungen und Erscheinungen, 1788, Harv.

709. C. H. Heydenreich, Originalideen über die kritische Philosophie, vol. I, 1793, Harv.

1030. J. S. Beck: Erläuternder Auszug—Kant, 3 vols., 1793–96, Harv.

1070. Hausius, Materialien zur Geschichte der kritischen Philosophie, drei Versammlungen, 1793, Harv.

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1127. G. C. Storr, 1126 in German, 1794, Harv.

1517. K. F. von Schmidt-Phiseldek, Philosophiæ criticæ secundum Kantium expositio systematica, Tom. I, 1796, Harv.

1629. Theorie der rein moralischen Religion [by G. L. Reiner], 1796,

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1693. Friedrich Nicolai, Ueber meine gelehrte Bildung, über meine Kenntniss der kritischen Philosophie, etc., 1799, Harv.

1769. K. [H. G.] Venturini, Geist der kritischen Philosophie, 2 parts. [1st part without name], 1796, 1797, Harv.

1770. [C. W. Flügge], Versuch einer historisch-kritischen Darstellung des bisherigen Einflusses der kantischen Philosophie, etc., 1796, 2d part, 1798, Harv. Div. Lib.

2046. I. [*i. e.* J.] A. L. Wegscheider, Ethices Stoicorum recentiorum fundamenta, . . . Kantium . . . , 1797, Harv. Div. Lib.

2428. Merian: Parallèle historique de nos deux philosophies nationales, Mémoires de l' Académie des Sciences et Belles-lettres, Berlin, 1797, Boston Athenæum.

2480. [J. G. Troitzsch, Ch. Gli. Schmidt, and J. Ch. Oeser], Etwas über den Werth der kantischen Philosophie, 1800, Harv.

2647. Fragmente aus Kant's Leben [Jh. Cp. Mortzfeldt], 1802, Princeton. [Not mentioned by Adickes], C. F. Ammon, Commentatio decima, Vindicatur morum doctrinæ arbitrium liberum, reiecta libertate Stoica ethnicæ, Kantianæ, in Nova Opuscula Theologica, Gottingæ, Dieterich, 1803, Harv. Div. Lib.

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F. A. Nitsch, General and Introductory View of Kant's Principles concerning Man, the World, and the Deity, London, 1796, Harv.

A. F. M. Willich, Elements of the Critical Philosophy, London, 1798, Harv.

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Charles Villers, Philosophie de Kant, Metz, 1801, Harv. [J. F. Herbart], Immanuel Kants Gedächtnissfeyer zu Königsberg am 22sten April 1810. Königsberg, 1811.

Thomas Wirgman's articles on Kant (1812), Logic, Metaphysics, Moral Philosophy, Philosophy, reprinted from the Encyclopædia Londinensis, Harv.

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G. K. Fick, Vergleichende Darstellung der Systeme von Kant, Fichte, und Schelling (no place given), 1825, Boston Athenæum.

F. E. Beneke : Kant und die philosophische Aufgabe unserer Zeit, Berlin, Posen, und Bromberg, 1832, Harv.

Karl Thomas, Kant und Herbart und Herr Professor Rosenkranz, Berlin, 1840, Harv.

E. S. Mirbt, Kant und seine Nachfolger, Jena, 1841, 1st vol., Harv.

[N. H. A. Lorquet], Discussion des Antinomies Kantiennes, Paris, 1841, Harv.

C. de Rémusat, De la philosophie de Kant, etc. (2 essays) in his Essais de Philosophie, vol. I, Paris, 1842, Boston Athenæum.

L. A. Gruyer, Des causes conditionelles et productrices des idées . . . et a faciliter l'intelligence et la critique du Kantisme, Paris, 1844.

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Julius Schaller, Geschichte der Naturphilosophie von Baco von Verulam bis auf unsere Zeit, 2d part, Halle, 1846, Harv.

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G. Hartenstein : Kant's Kritik der reinen Vernunft, Leipsig, 1853. Boston Univ. Theol. Sch. Lib.

H. M. Chalybäus : Historical Development of Speculative Philosophy from Kant to Hegel, translated by Alfred Edersheim, Edinburgh and London, 1854, Harv. Div. Lib.

Émile Marial, Le scepticisme combattu dans ses principes. Analyse et discussion des principes du scepticisme de Kant, Montpellier, 1856, Harv.

Émile Marial, Le scepticisme combattu dans ses principes. Supplément, Paris, 1857, Harv.

H. Kletke, Kant's Leben with 'Proben' in Walhalla, vol. I, Berlin (no date), Boston Athenæum.

WALTER B. WATERMAN.

ROXBURY, MASS.

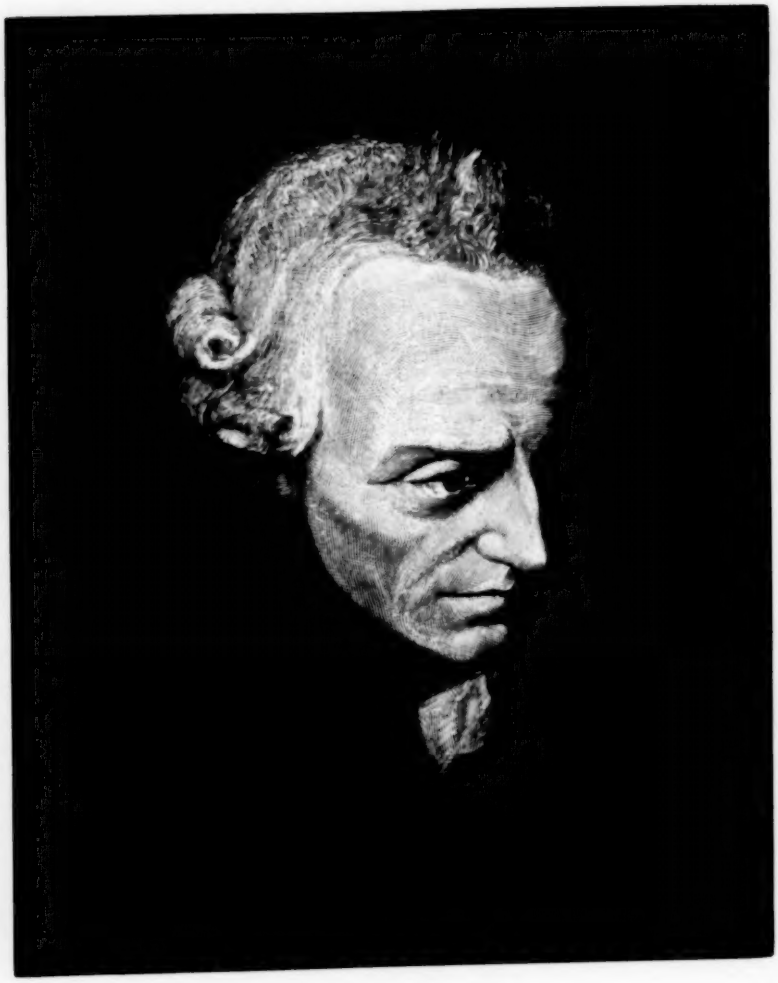
Professor E. B. McGilvary, of the University of California, has been called to the Sage chair of moral philosophy in Cornell University.

Mr. G. F. Stout, editor of *Mind* and lecturer in Comparative Psychology in the University of Aberdeen, has been appointed to the recently established Locke Readership of philosophy in the University of Oxford.

Dr. Wilhelm Biehl, formerly Director of the Gymnasium at Innsbruck, died at Graz, November 3rd, at the age of 72 years. Dr. Biehl was a well known Aristotelian scholar, the editor of a number of valuable papers on Greek Psychology, and editor of the *De Anima* and *Parva Naturalia* in Teubner's Greek Texts.

Students of Spinoza will be glad to learn that The Macmillan Company announce that they will soon publish a new edition of Sir Frederick Pollock's *Life and Philosophy of Spinoza*, which has for a long time been out of print and difficult to obtain.

The following news comes to us from the Scottish universities: Mr. Henry Barker, scholar of Trinity College, Cambridge, who has succeeded Dr. Charles Douglas as Lecturer and Assistant in Moral Philosophy at Edinburgh, delivered his lectures as Shaw Fellow in January last, his subject being "Theological and Philosophical Method."—Dr. Douglas has just been appointed Additional Examiner in Philosophy at the University of Edinburgh for the next four years.—Professor Tiele, of Leyden, has lately completed the delivery of his Gifford Lectures at Edinburgh, and Professor Royce, of Harvard, has just given his first course on the same foundation at Aberdeen. Professor James, of Harvard, is the next Gifford Lecturer at Edinburgh, and the Rev. Dr. Matthews, of Edinburgh, has been appointed as Professor Royce's successor at Aberdeen.



THE NEWLY DISCOVERED PORTRAIT OF KANT.

(Now in the Museum of Königsberg.)